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Perspective View of the Great Muir Glacier

From a photograph by I. W. Taber (from the East Moraine)

THE WONDERS

OF

A·L·A·S·K·A

BY

ALEXANDER BADLAM

WITH

ILLUSTRATIONS AND MAPS

SAN FRANCISCO
THE BANCROFT COMPANY
1890

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PREFACE.

While the eye of almost the entire world is directed to the wonders of the comparatively unexplored regions of the far northwest, and while the elegant steamers that weekly ply the inland channel, from Port Townsend to Glacier Bay are crowded to their utmost capacity, it would seem an opportune time to publish an illustrated work on the wonders of Alaska.

The author of this volume was Treasurer of the California-Russian Fur Company, a corporation which caused the maps to be made, and opened the negotiations for the purchase of Alaska from the Russian Government. Being in constant communication with the residents of that Territory, watching with deepest interest its enterprise and progress, having made an extended trip to the most interesting portion, studying the history of its strange people, viewing and examining its remarkable glaciers, gazing in wonder at its high and snow-capped peaks, at its beautiful bays and fjords, sailing through the narrow passages of the great Archipelago from Victoria to Chilkat, receiving from the queer people legends and histories of the numerous tribes, the witchcraft and barbarism of its people, and the great extent of its fisheries and seal-hunting grounds, the writer believes himself sufficiently

informed to give a clear and concise sketch, more particularly of that portion of Alaska traversed by the commodious steamers of the Pacific Coast Steamship Company.

The reader can follow these pages and be fully informed of all the principal points of interest along the Inland Sea with its innumerable islands, the great resources of this wonderful country, its native villages, the grandeur of its scenery, the traditions of the Indians, the success of the mission schools and the extension of civilization.

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THE MUIR GLACIER AT 10 O'CLOCK, P. M.

From photograph 7596, by PARTRIDGE, Portland, Ore.

CONTENTS.

CHAPTER I.

INTRODUCTORY.

Alaska.—1542.—Its Early History and Exploration.—Vitus Behring.—His Exploits and Death.—Arrival of Captain Cook.—Tyranny of the Russian Fur Company.—The Purchase of Alaska in 1867.—Derivation of the Name.—Western Union Telegraph Expedition.—Boundary.—Extent of Alaska.—Its Divisions, Rivers and Mountains 1

CHAPTER II.

CITIES OF THE GREAT NORTHWEST.

Beautiful Mountain Scenery.—Mt. Hood.—Mt. Tacoma.—Portland.—Tacoma.—Seattle.—Port Townsend.—Victoria.—Vancouver, the Terminus of the Canadian Pacific Railroad..... 11

CHAPTER III.

THE INLAND PASSAGE.

From Port Townsend to the Great Glaciers.—History of the Beautiful Country and Manners of its Queer People.—Grandeur of its Scenery.—Sublimity of These Water Corridors.—Description of the Islands, Mountains, Fjords and Channels.—Flora and Verdure.—Wrangell.—Juneau.—Glacier Bay.—Killisnoo and Sitka..... 19

CHAPTER IV.

THE GLACIERS.

The Natural Formation of a Glacier.—Birth in the Mountains and Gradual Descent to the Sea.—Dr. Kane's Theories.—Evidences of Glacial Action in the Sierra Nevadas and Rocky Mountains.—Prof. Muir's Discoveries.—Description of the Great Muir Glacier.—The Pacific.—Davidson.—Takou.—Rainbow.—Auk and Eagle Glaciers.—Prof. Muir's Explorations.—The Extent of Glacial Action.—Investigation in Greenland.—Moraines.—Definition, Description and Characteristics.—Moraines and Evidences of Pre-Historic Glaciers in the United States..... 35

CHAPTER V.

THE NATIVE RACES.

Pre-Historic Theories.—Alaska's Progress.—Divisions of the Nations, Tribes and Clans.—Hyperborean Group.—The Eskimo of the North.—Canibalistic Koniagas.—The Aleuts and Intermixtures of the Aleutian Chain.—The Savage Tinneh.—The Fierce and Warlike Thlinkets.—Habits, Customs, Superstitions and Morals of the Tribes 56

CHAPTER VI.

TOTEMS AND SHAMANS.

The Totem Pole; Its Emblematic Significance and Use.—Grotesque Carvings and Barbaric Conceptions.—Wonderful Canoes.—Graves and Burial Customs.—Primitive Religions.—Witchcraft Among Other Peoples and in Early History.—The Potlach.—Offering of the Conscience-Stricken Indians.—A System not Found Among More Enlightened People 75

CHAPTER VII.

EDUCATION IN ALASKA.

History of Early Education Under the Russians.—The Changes After the Purchase of Alaska.—Long Neglect.—Present Inadequacy of System.—Work of the Agent and Needs of the Schools.—Duncan's Metlakatla Mission; Its Prosperity and Thrift.—Persecution by Church and State.—Final Immigration to Alaska.—Wŏrk of the Sectarian Missions 87

CHAPTER VIII.

ANIMAL LIFE IN ALASKA.

Mammoths.—Discovery of these Pre-Historic Monsters.—The Remarkable Bear of the Yukon.—Other Species of the Bear.—The Deer, Buffalo and Vulpine Families of Alaska.—Fur-Bearing Animals.—Ornithology.—The Amphibia and Fishes of Alaskan Waters 97

CHAPTER IX.

RESOURCES.

Alaska's Great Wealth.—Extent of Her Gold and Silver Mines.—Valuable Discoveries of Mineral Wealth.—The Abundance of Coal and Timber.—Value of Her Furs, Fisheries, etc.—The Great Treadwell Mine.—Development of Placer Mining.—Industry and Growth of Her Canneries.—Prospects for a Bright Future 112

CHAPTER X.

PHANTOM CITIES AND MIRAGES.

Atmospheric Illusions in the Vicinity of the Glaciers.—Professor Willoughby's Silent City.—Effect of the Late Sunset.—Confirmations

of the Discovery.—The Phantom City Wonder.—A Submerged City Beneath Glacier Bay.—The Reality Discovered in the Mysterious Yukon Region,—A Frozen City 127

CHAPTER XI.

CHINOOK JARGON.

Language of the Indians.—Different Dialects.—The Traders Introduce a Common Jargon Which Nearly All Tribes Have Adopted.—The Chinook Used as Far South as Oregon.—Examples for the Use of Tourists 138

CHAPTER XII.

HOW TO GET THERE.

From San Francisco to Alaska.—The Different Routes Open.—Information as to Connections.—Schedule of Steamer Movements.—Things that Will Come Handy on the Trip, and Bits of General Information. 142

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FOREST SCENE IN ALASKA.

From photograph 7338, by PARTRIDGE, Portland, Oregon.

LIST OF ILLUSTRATIONS.

	PAGE.
The Great Muir Glacier. (*Frontispiece.*) Photographed by I. W. Taber.	
Muir Glacier at 10 P. M.	v
Forest Scene near Sitka	ix
Among the Ice Cakes—Muir Glacier	3
Steamer Ancon Behind an Iceberg in Takou Inlet	7
Harbor of Sitka—Wharf and Islands, from Baranoff Castle	19
Map No. 1, From Port Townsend to Texada Island	21
" " 2, From Texada Island to Queen Charlotte Sound	23
" " 3, From Queen Charlotte Sound to Finlayson Channel	25
" " 4, From Finlayson Channel to Malacca Pass	27
" " 5, From Malacca Pass to Cleveland Peninsula	29
" " 6, From Cleveland Peninsula to Stephens Pass	31
" " 7, From Stephens Pass to Muir Glacier	33
" " 8, Sitka, Peril Straits and Vicinity	35
Glacier Bay from the top of the Glacier looking Southward	37
Davidson Glacier, Chilkat Inlet	41
Crevasse in the Muir Glacier	47
Effect of Glacial Erosion—Near Muir Glacier	53
Auk Indians near Juneau	59
Indian Funeral at Fort Wrangell	67
Ancient Mummy from Kagamil	71
Bear Totems at Fort Wrangell	77
Indian Graves at Fort Wrangell	81
Sitka, from Baranoff Castle	89
Greek Church, Sitka	93
An Alaskan Mammoth	98
Chief Kow-ee after a Bear Hunt	101
Indian Bridge near Sitka	105
City of Juneau and Treadwell Mine	113
Killisnoo, near Sitka	121
Willoughby's Silent City	129
Taber's Phantom City	133
Mirage of Muir Glacier in Glacier Bay	137
Shaman in Dancing Costume	139
Transparent Iceberg in Takou Inlet	143
Steamship "Queen"	145
Steamship "City of Topeka"	147
Steamship "Geo. W. Elder"	149

CHAPTER I.

INTRODUCTORY.

ALASKA.—1542.—Its Early History and Exploration.—Vitus Behring.—His Exploits and Death.—Arrival of Captain Cook.—Tyranny of the Russian Fur Company.—The Purchase of Alaska in 1867.—Derivation of the Name.—Western Union Telegraph Expedition.—Boundary.—Extent of Alaska.—Its Divisions, Rivers and Mountains.

ALASKA, as it is now known, was Russian-America prior to the acquisition of the Territory by the United States Government.

As early as A. D. 1542, the Spanish explorers moved northward from Mexico up the Pacific Coast in search of the Anain passage to India, in the existence of which they firmly believed, and which they looked upon as a short cut to India and to wealth. In 1592 Juan de Fuca believed that he had reached this goal of his ambition and realized the dream. The point which he thought led on to fame and fortune was north of the forty-eighth parallel.

The Russians had gradually pushed form the westward into Siberia and explored much of the Kam-

chatkan coast to the northward. Their object was not to enrich geography nor to aid the cause of science in any way, the impulse being merely the extention of trade and entirely mercenary, while the tales told by returned traders stimulated in the ever-aggressive court at St. Petersburg a desire for conquest and territorial acquisition. As the natural result, an expedition was fitted out in 1728 and placed under the command of Capt. Vitus Behring, who, with a corps of scientists coasted north and through Behring Straits. Behring was not a venturesome man, and, after having demonstrated to his own satisfaction that Asia and America were separate continents, he returned to Kamchatka without even having had a glimpse of the American coast. In the Spring of 1729 Behring made an effort to find a coast line east of Kamchatka, but, on account of stress of weather and his natural timidity, turned the head of his vessel for home. But trade, which after all had been as great a factor as science in the discovery and settlement of new lands, was striding onward and had pushed its way into the lands to the northward and eastward. Rumors of a vast unexplored country in the east, constantly received from the Indians, and Behring's report of his voyages, had excited great interest in official circles in Russia, and, in June, 1741, a new expedition consisting of two vessels, with Behring in command, started eastward. They shortly became separated, and one of them, arriving off what is now known as Cook's Inlet, met a horrible reception from the Indians, who killed a number of its men, and they beat a retreat and returned home. Behring sighted Kaiak Island and lay to, off the coast, but without attempting exploration

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THE MUIR GLACIER, AMONG THE ICE CAKES.

From photograph 7807, by PARTRIDGE, Portland, Ore.

put to sea the next day. Adverse weather came on, the reckoning was lost, and the ship was wrecked on Behring Island, where Behring died. The other members of this part of the expedition reached home after much peril, privation and suffering.

Shortly after these occurrences trade again came to the aid of science. A trader, sailing eastward, discovered Attou Island, the most westerly of the Aleutian group, and the wealth of goods with which he returned made the islands known to traders and navigators and they soon had a place on the charts. The incentive to discovery was stimulated and the Russians at last reached Oonalaska, and meanwhile, the Spaniards had arrived at Queen Charlotte Islands. In 1775 they had reached as far north as Sitka. In the following year Captain Cook, a wise, yet one of the most adventurous exploring navigators of his time, appeared in these waters. He made no new discoveries, but attempted several explorations and changed many names of places into English nomenclature. He reached Behring Strait, from whence he returned to the Sandwich Islands, where he was killed, and, so tradition sayeth, cooked and eaten by the natives.

The history of the Alaskan region for the eighty years, dating to the American acquirement, is a sad tale. It is a record of Russian avarice, cruelty and despotism and the most outrageous atrocities by the Russian-American Fur Company, which, having absorbed all the other trading companies and obtained the Royal patronage, ruled with an iron hand. License lent zest to cupidity and unrestrained tyranny gave full swing to robbery, murder and rapine. International squabbles arose through the presence

of English and other foreign traders and speculators, who were looked upon by the minions of the Russian-American Company as interlopers. The scandal became so great and the protests against the Company's actions so numerous, that, when its charter expired, in 1862, it was refused a further concession, and from that time until the transfer of the Territory to the United States, it had no privileges that were not accorded to all organizations or individuals.

Some of the traders or seal-hunters in the Aleutian group made complete and perfect maps from Vancouver's survey of 1793, and adding thereto the surveys and information of many subsequent explorers and navigators, sent their maps and other data to capitalists in San Francisco in 1866, with a suggestion to purchase the property, consisting of ships and furs, houses, and the acquired rights of the Russian-American Fur Company. A company, called the California-Russia Fur Company, was formed with the late Gen. John F. Miller as its President, Eugene L. Sullivan, Vice President, J. H. Baker as Secretary, and the author of this work as Treasurer, and they forwarded to Washington the first information on which was based the offer of the United States to purchase Alaska from Russia, which was tendered by Mr. Clay, then our Minister at St. Petersburg. The contract to purchase the holdings of the Russian Company was signed by their agent and the steamer fitted up to go north and make the delivery, but through the treachery of one of the officers of the California Company the contract was canceled and the valuable property turned over to others. The negotiations for the purchase of Alaska were completed on March 30, 1867, and ratified on

the 28th of May following, when it was formally conveyed to our Government on payment of the sum of seven million, two hundred thousand dollars in gold.

Public opinion was inclined at the time to ridicule that step, but Secretary Seward, with rare foresight, judged the value of the country, and is reported to have said that it might not be in his generation, but at some time the move would be appreciated. It can be seen by a glance at the statistics of the past twenty years the wealth that has been returned to the government, the returns from the fur seal lease to the government from the company now holding it, and the new resources constantly discovered and developed would justify this assertion.

The term "Alaska," by which the extreme northern territory of the United States is designated, is a corruption of the aboriginal word, "Al-ak-shak," meaning a great country, or a great continent, which is certainly appropriate when it is considered that Alaska contains nearly six hundred thousand square miles—as great an area as is comprised in the entire United States, north of Georgia and east of the Mississippi river. Al-ak-shak was the term the early voyagers heard applied to the unknown land, and we find it on French, German and Spanish maps in various forms. Captain Cook was the first to give it a Saxon spelling and pronunciation, in the atlas of his first voyage in 1778. On its purchase by our government, Senator Sumner, who had been warm in his support of Seward's policy, urged the adoption of "Alaska" and it was done.

Meanwhile the failure of the first cable under the Atlantic induced the directors of the Western Union Telegraph Company to attempt the construction of a

telegraph line which, commencing at San Francisco, should traverse Oregon, Washington, British Columbia and Alaska; then, crossing Behring Straits by cable, entering eastern Siberia and traveling south, form a junction with the Russian line, which had then reached Amoor.

Many doubts were advanced as to the feasibility of this route, but, in 1865, an expedition under Captain Bulkley left San Francisco. Many miles of line were built through densely timbered country, and finally, after an expenditure of over $3,000,000, the ultimate success of the second Atlantic cable in 1866 put an end to the proceedings in this direction and the expeditions were recalled. Though the primary object of the expedition was not carried out, the benefits resulting to geography and to science in general have been great.

According to the treaty of concession, the southern boundary of Alaska lies in the parallel of 54° and 40′, and the imaginary line ascends northerly along the center of Portland Channel to the Coast Range where it follows the indentations of the coast at a distance of ten leagues until Mt. St. Elias is reached, where the line strikes 141° of west longitude, which then becomes an eastern boundary. Attou Island in the Aleutian group, which is only thirty miles from Asia, is the extreme western point of Alaska, and the vast extent of unexplored ice bars alone the way for the extension of territory in the north. Alaska's extreme breadth from east to west is over two thousand four hundred miles, and from north to south about eighteen hundred miles. The extreme easterly and northeasterly boundaries are still undefined, the character of the country

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STEAMER ANCON BEHIND AN ICEBERG IN TAKOU INLET.

From photograph No. 7741, by PARTRIDGE, Portland, Ore.

being such that no surveys have ever been made. Professor Davidson estimates the shore line of Alaska, on its numerous islands, sounds and inlets at thirty thousand miles; more than three times the coast line of the United States on the Atlantic and Pacific south of British Columbia. Congressman Morrow, in his great speech before the American Protective Association, at its banquet held in New York on January 17, 1889, made the statement that, owing to the extreme westerly boundary of Alaska, San Francisco was six hundred miles east of the geographical center of the extreme eastern and western boundaries of the United States, and therefore San Francisco might be called an eastern rather than a western city.

Alaska is divided into three natural divisions. One, extending northerly from the Alaskan range of mountains which forms the westerly end of the Alaskan Peninsula to the Arctic Ocean, may be called the Yukon division; another, the Aleutian, which embraces the peninsula and islands west of the one hundred and fiftieth degree of longitude. The third may be called the Sitkan, which will include the southeastern portion of Alaska from Dixon Inlet, in latitude 54° 40′ north, to Cross Sound.

Northerly from Norton's Sound the great River Yukon with its tributaries covering three thousand miles, and navigable at certain seasons of the year for over two thousand miles, drains the northern portion of Alaska, emptying into Behring Sea a larger volume of water than the Mississippi pours into the Gulf of Mexico. Mining is made practicable and possible in this section of Alaska by crossing the

Chilkat range of perpetual snow, on sleds drawn by dogs, early in the season, and by building rafts or boats and floating down to the mining camps near the head of navigation.

The principal mountains of Alaska and their estimated heights are: Mt. St. Elias, 18,000 feet; Mt. Fairweather, 14,000 feet; Mt. Crillon, 13,500 feet; Iliamna Volcano, 12,000; Redoubt Volcano, 11,300 feet; Alai Volcano, 9,000 feet; Mt. Calder, 9,000 feet; Mt. Shishaldin, 8,955 feet; Goreloi Peak, 8,000 feet; the Romanzoff Mountains, 8,000. The number of volcanic peaks is put down at sixty-one, ten of which show symptoms of activity.

The time has now arrived when the country should have a territorial form of government, with such modification as may be deemed advisable, liberal land laws and such other inducements as will encourage the immigration of a healthful population. In justice to the people of the Territory that irregular and irrational condition of public affairs now existing should end.

This year the lease of the seal fisheries has been sold to the highest bidder. It matters but little which company has possession of the exclusive right to take seals, as it is a wise provision to prevent a complete annihilation of the seal-bearing animals of the Aleutian group, and it is undoubtedly to the interest of the government that this valuable source of revenue should be thus protected. Reasons for this are obvious and many, and it is of vital importance to certain communities of Alaska's people, but no private company, whatever the management of that company, should hold supreme sway over, or a controlling interest in any domain

inhabited by citizens of the United States and under its flag.

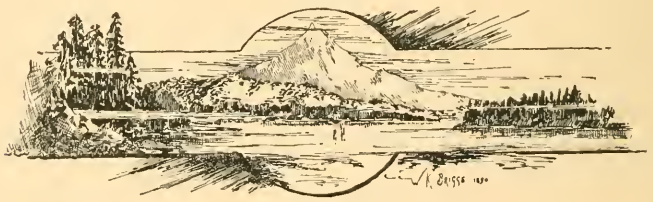
A convention, held at Juneau, on November 5, 1889, formulated a memorial, which is now before Congress, asking that the Territory be allowed a delegate in that body, that the homestead laws be extended to Alaska in a modified form, that timber-cutting laws be passed for the Territory and that a commission be created for the purpose of forming a code of laws for Alaska. There is nothing unreasonable in this. Some special legislation is essential owing to the anomalous conditions of the country geographically, and her queer people, but there are in the Territory law abiding, patriotic people in sufficient numbers to govern themselves under adequate and fixed laws, and with a delegate in Congress to explain its wants and speak for its people.

Land and timber laws are an absolute necessity. The land taken up, that is, what is occupied, is held under precarious conditions, the people being able to get no titles to their claims and living in a consequent state of insecurity. The lands are valuable and the people should be secured in their possession of them. Under the existing regulations there is no provision by which the people can make use of the timber about them. When these things are altered and a good and stable government takes the place of the present imperfect judicial form and corporation rule in the Territory, immigration will be encouraged and attracted to this section, but not before.

I regret that the present administration seems not entirely in accord with the people on this subject, but Congress should early take up the matter of the

wants and needs of Alaska, and grant the wishes of the people to which they, as citizens of the United States, clearly are entitled.

The chapters that follow will give the reader a glimpse of the wonderful grandeur of that curious formation of islands, made up by the maze of passages and channels known as the Inland Passage; they will also give a brief and concise account of the native races, with their habits, customs, superstitions and primitive religion; will inform him somewhat as to the natural history of the Territory, and will acquaint him with the mission and school work at Metlakatla, Sitka and elsewhere, giving information of the great extent of the fisheries, the wonderful mines, the development of numerous other resources and the bright future in prospect for this—Uncle Sam's great northern domain.

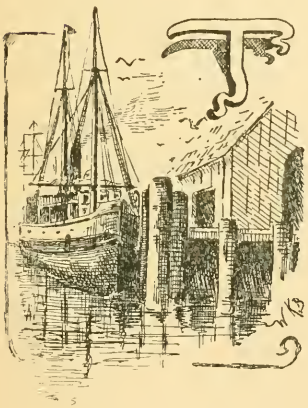


CHAPTER II.

CITIES OF THE GREAT NORTHWEST.

BEAUTIFUL MOUNTAIN SCENERY.—MT. HOOD—MT. TACOMA. — PORTLAND. — TACOMA. — SEATTLE. — PORT TOWNSEND.—VICTORIA.—VANCOUVER, THE TERMINUS OF THE CANADIAN PACIFIC RAILROAD.

PORTLAND.



THE cities of the extreme north west — those products of a phenominal growth — have. surely, a claim upon our attention. Should the tourist return home without having visited these pushing towns, he would be regarded as one whose opportunities for observation were large, yet one who had taken no favorable cognizance thereof; so, glancing at them as we go, Portland is the first upon our route.

It is a second San Francisco, with all its push, vigor, peculiarities of nationalities and strength of local position. Portland is American in her growth, progress, public schools, wharves, churches and modern improvements. She is the metropolis of Oregon, the railroad feeder, the supply center and wholesale mart of Oregon, Washington and Idaho.

The city is located upon the Willamette river, about twelve miles from its confluence with the Columbia. It stands upon a level strip of area on the west bank of the river, along which it extends for several miles, reaching back upon the slopes to the "Heights," two precipitous bluffs, from which can be observed the wide extent of the surrounding country, for, when one looks to the east or north his vision takes in that scope of territory embraced by the picturesque Cascade range of mountains.

Portland's population can safely be set down as 80,000. There the same restless activity of life and the same earnestness of purpose is manifested as is seen in every growing city on the Pacific Slope.

TACOMA.

Tacoma lies next in our way, and this marvel of tenacity and intelligent adherance to a town site in which, five years ago, stumps of fir and pine stood undisturbed in the heart of the embryonic city, on Pacific Avenue, its now leading thoroughfare, is an objective lesson in the tremendous energies of the people of Washington. It is, besides, an inspiration. Like its rival, Seattle, its growth and beckoning future are largely due to the pluck and confidence of those who, less than a decade ago, "came to stay." Notwithstanding Tacoma's great increase of population, suddenly rising from 5,000 in 1883 to to a population of over 30,000 at the present writing, her growth may be said to have been strictly conservative, the inducements for investment and the opportunities for homes being all that was claimed for the city by its early settlers and promoters. It

has never oscillated with the feverish threatenings between boom and panic, as has been the lamentable experience of so many new towns in the middle-west and on the Pacific slope. It is solid, never having been over-boomed, and to predict adequately its wonderful future would be equal in rashness with fixing to-day the limits of Chicago fifty years hence.

Tacoma is situated on the west shore of Commencement Bay on Puget Sound, the longest stretch of deep water of good aquatic behavior known on the world's map. The city is located on a high bluff rising by easy graduations from the water till it reaches to the top of a long level area where are many fine villa residences, commodious public school edifices and handsome churches. It possesses electric and cable lines and four railroads, and is the western terminus of the Northern Pacific railroad. In fact it has been the pet and protege of the latter corporation and is indebted largely to its favors for its enterprises and early stimulus given to its aspirations.

On its shores are shipping wharves, and in close proximity are large lumber mills, grain elevators and coal bunkers. Its harbor is deep and wide, and from the broad extended piers ships depart daily for all ports on our southern coast, and frequent shipments of lumber are taken for China, Japan, the Sandwich Islands, South America, and particularly for Australia and the Colonies. From it are also shipped by rail or vessel the enormous products of the Puyallup hop fields, nine miles distant, as well as wheat which comes from the great Walla Walla and Big Bend fields of eastern Washington.

Tacoma's leading citizens are, as a rule, young men, ambitious and rivited with a zealous devotion

to its prosperity and permanence. Scores of fortunes have been made by individuals who, investing in their town lots and filled with sublime faith, "stood by their burg," as the expression runs there, and sold their lots, costing originally from two hundred to three hundred dollars and even less, for thousands.

About fifty miles to the southeast rises Mt. Tacoma, 14,444 feet above the sea level, which, towering in rugged grandeur, robed in perennial snows and seamed with frictions of the glaciers, is visible to the best advantage in this modern city of destiny.

SEATTLE.

Twenty-eight miles further north and on the east side of Puget Sound is the old Chinook town of Seattle. Its settlement antedates that of its rival by something more than a generation's span. Its citizens claim to possess the best harbor on the sound, while it is nearer the coal mines and the almost inexhaustible lumber regions. Its harbor is almost circular, leaving the city rising up from its shores in gently sloping terraces with the graceful sweep of a wide amphitheatre. Looking over the waters which lave this beautiful city is seen the vast Olympian range, while south of the city Mt. Tacoma rises lofty and white, with broad gigantic shoulders, like another Atlas weighted down with almost unbearable burdens. Here this mountain is not Mt. Tacoma. They insist that it shall be called Mt. Rainer—at least their side of it.

The situation of Seattle is very commanding; its wharfage is almost unlimited, affording most excellent facilities for commercial enterprises. There are

her large and substantial business blocks of stone and brick, schools, hospitals, fine public buildings and private residences, evincing taste, wealth and enterprise. Though a terrible conflagration destroyed a greater portion of the business edifices of the city in June, 1889, these have been replaced by more substantial and elegant ones, so that the fire, though a severe blow at the occupied energies of the city, will yet prove to be a blessing in disguise. There is no such thing as dampening the fervor or chilling the zeal of the people of Seattle.

Its trade is largely in lumber and coal, and it has business connections all over China, Japan and South America, wherever a vessel may wander to exchange commodities. Five railroads are trade bearers to this market, while cable and electric lines ramify in every direction through this bustling, prosperous, dauntless, ideal city. Its future, based upon geographical advantages of location, the mineral and the timber all around it, its mills and railroad alliances, as well as upon the business sagacity of its leading citizens, must surely be a grand one.

As for its population, about which there is so much discussion, when Tacoma mentally takes the census, it is safe to say that Seattle leads her neighbor and sister city by about five thousand, thus allowing Seattle to count a population of thirty-five thousand within her city limits.

PORT TOWNSEND.

Port Townsend is another of a series of young cities which has lately put on new life and is striving for predominence on Puget Sound. It is a port of entry near the military post, Fort Townsend,

which commands the Straits of Juan de Fuca. It has a capacious harbor. Nearly all the commerce of the Sound must pass this gateway and hence contiguous territories are beginning to pay tribute to its mart. As a port of entry it is credited with being second only to New York, in the extent of export tonnage.

It has a population of from five thousand to six thousand. Shrewd business men have invested all their confidence and their means in this progressive city which received its stimulus of rapid growth in 1885, when the other cities around it began their career of sudden and conspicuous prosperity. Business blocks worthy of any metropolis now adorn Port Townsend, and more are almost continually in course of erection, while two railroad companies, which only recently made bids for accessible water fronts, have sent surveyors in the field to select the most advantageous route for connecting this city with Portland, Oregon, and the country on the east of the Cascade Mountains.

For the tourist or lover of nature Port Townsend, besides being a promising place to invest in, possesses perhaps the most glorious mountain scenery in Washington. Climbing the cliffs which look down upon the city, one can behold a scene of rare enchantment. On a clear day the lofty peaks of the entire Cascade Range, from Mt. Baker on the north to Mt. Tacoma on the south, can be witnessed in one grand procession of white-capped summits and glittering pinnacles. There is said to be three score of them.

VICTORIA.

Across the Straits of Fuca, and distant three hours run by steamer, is Victoria, the Capital of British

Columbia, and in point of beauty of location is not surpassed in the Pacific Northwest. Over thirty years ago Victoria was a post of the Hudson Bay Company and grew into a settlement during the Frazer River gold excitement. Notwithstanding that this activity was short lived, Victoria became a place of steady growth till her population is now reckoned at twenty thousand, of which the Chinese are no insignificant portion.

The entrance to the city by the inner harbor is long, rocky and winding and can admit only craft of lesser proportions, but its outer harbor, one mile away, is ample for vessels of all sizes. Its commerce embraces not only the whole North Pacific coast, but extends from Japan to Montreal, New York and even to England. The old Hudson Bay Company, opulent as ever, has one of its chief stations here. It is a great shipping point for fish, lumber and furs.

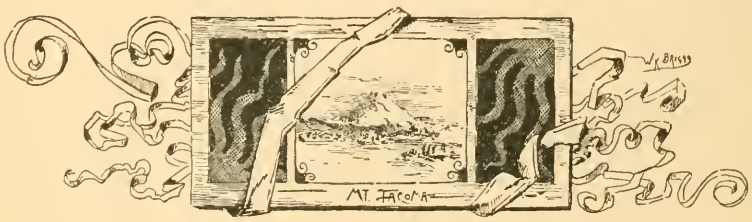
The city is remarkable for its well arranged and well constructed roads, and has many pleasant drives into the surrounding country. From Beacon Hill, rising in the center of the park, there is a fine outlook up the island. Gazing eastward, Mt. Baker lifts its hoary head twelve thousand feet, while one hundred and fifty miles further south, Mt. Tacoma shows itself the most commanding of all the peaks.

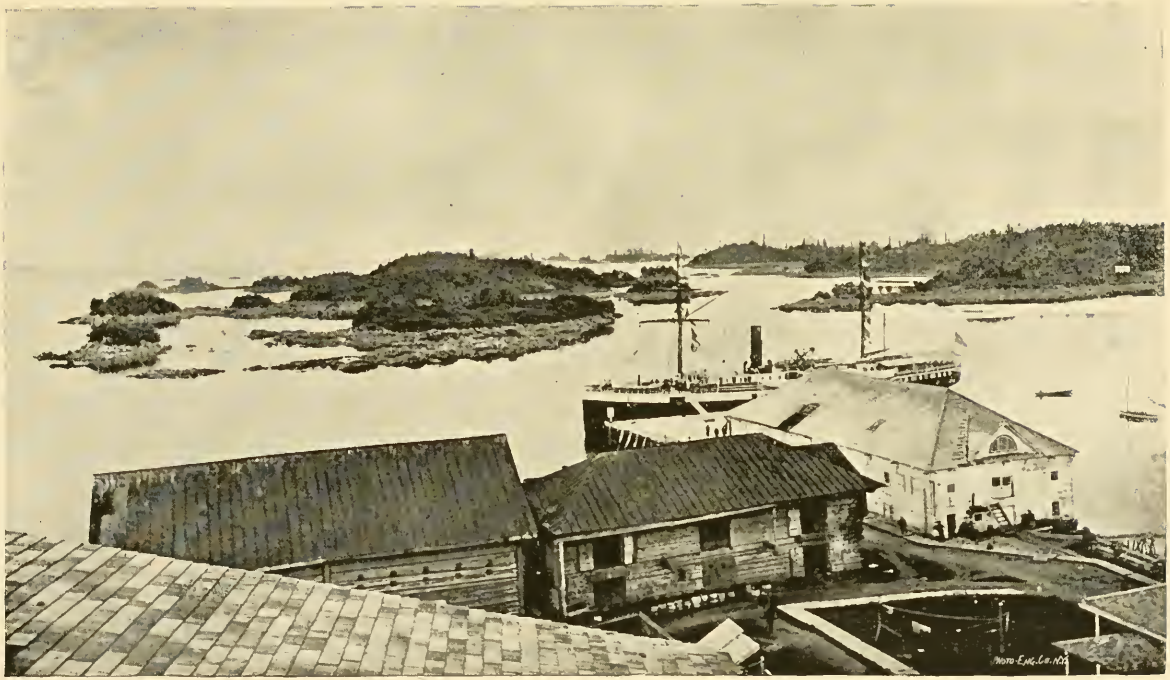
In every sense of the word Victoria is a handsome city. Americans on visiting it are struck by the solidity and graceful style of the architecture in its business houses, churches and schools. Being the seat of Government of British Columbia, it contains many government buildings of magnitude and beauty of design. Massiveness as well as symmetry seem to have been the objects of the architect.

There is a pleasant drive out to Esquimault (pronounced *Squimalt*) where the Dominion Government has constructed one of the finest docks on the coast. English men-of-war are to be found in this naval station at any time. Victoria, distant two thousand, nine hundred miles from Montreal, had hoped to be the western terminus of the Canadian Pacific road, but in this she was doomed to disappointment, Vancouver carrying away the honors and benefits derived from such a distinction.

VANCOUVER.

Vancouver is eighty miles from Victoria and the two are connected by a line of swift steamers. Vancouver is situated on a peninsula from the main land which shuts in an arm of the sea called Burrard Inlet, forming a perfect harbor. The city slopes on the one side to the waters of Burrard Inlet, and on the other to English Bay, which provides for perfect drainage, and, surrounded on all sides by sublime mountain and water scenery, Vancouver is a busy, healthful and beautiful city. It is a little over two years old and is a city of between twelve and fifteen thousand inhabitants.





HARBOR OF SITKA, AND OLD WAREHOUSES.

From photograph No. 7970, by PARTRIDGE, Portland, Ore.

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CHAPTER III.

THE INLAND PASSAGE.

FROM PORT TOWNSEND TO THE GREAT GLACIERS.—HISTORY OF THE BEAUTIFUL COUNTRY AND MANNERS OF ITS QUEER PEOPLE.—GRANDEUR OF ITS SCENERY.—SUBLIMITY OF THESE WATER CORRIDORS.—DESCRIPTION OF THE ISLANDS, MOUNTAINS, FJORDS AND CHANNELS.—FLORA AND VERDURE.—WRANGELL.—JUNEAU.—GLACIER BAY.—KILLISNOO AND SITKA.

AS the tourist, bent on beholding the scenic grandeur, the frigid sublimity and the all prevailing wierdness of Alaska's shores and mountains, generally embarks at Port Townsend, we too will put off from this thriving port and gradually open out the panorama as the numerous islands, precipices, crooks and turns will permit.

Leaving the deep waters of the Sound then, a northwesterly course across the Straits of Fuca brings us to Victoria, a distance of thirty-four miles, where a stop of six hours is usually made to receive freight and passengers and make a clearance at the Custom House. We leave Victoria in a northerly direction and keep to the west of the San Juan Islands, noted for their having been disputed territory between the

British Government and the United States; they were finally awarded by commission to the latter. These Islands are about eight miles from Victoria. Thence proceeding northerly through the De Haro Straits among innumerable islands, and passing Admiral Island on the east, at about thirty miles from Victoria, we wind through Active Pass and take a northwesterly course opposite Point Roberts; passing the light house at Entrance Island, opposite Nanaimo, which latter is about three miles southeast from Departure Bay.

On our right is the mainland of British Columbia with its beatiful mountain view and on our left tower the mountains of Vancouver Island, which came into the possession of England about 1789, deriving its name from the great explorer. George Vancouver was an English navigator who had served as midshipman in the second and third voyages of Captain Cook, in 1772–75 and 1776–80. He was made first lieutenant and, about 1789, was commissioned to proceed to Nootka, with orders for the surrender of the place, from the Court at Madrid to Quadra, the Spanish Commandant. He was ordered to make a survey of the coast northward from latitude 30°, and to ascertain if there was any connection between the coast and Canada, by means of rivers, lakes or inlets.

In 1791, Vancouver left England and made an examination of the Sandwich Islands, and in 1792, he crossed to the American coast, secured the surrender of Nootka, and took possession of Vancouver Island in behalf of Great Britain. Vancouver spent the summers of 1792–93–94 surveying the coast from the Straits of Fuca as far north as Cook's Inlet and wintered in the Sandwich Islands. He gave the

From Port Townsend to Texada Island.

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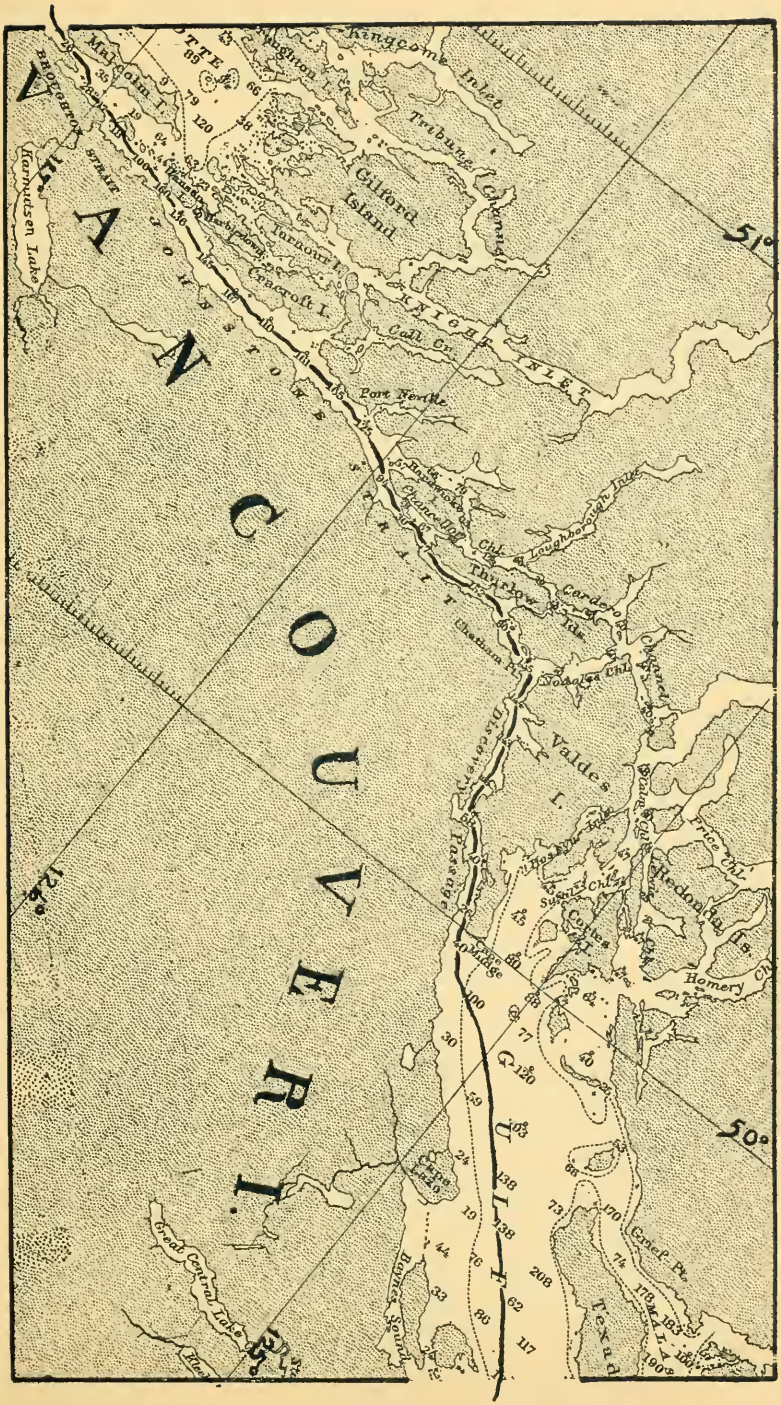
island the name of Quadra and Vancouver, but the first is no longer used. In 1843, the Hudson Bay Company established a trading post at Victoria. The Island was long claimed by the United States, but Great Britain was confirmed in her possession by the treaty of '46. In 1849 it was granted to the Hudson Bay Company for fifty years. In 1859 it was formed into a colony, and in 1866 was consolidated with British Columbia. Vancouver Island now forms the southwesterly corner of British Columbia, and lies between north latitudes 48° and 50° and west longitudes 123° and 128°. Its length is 275 miles and its greatest breadth is 85 miles. The Island is separated from Washington by the Straits of Fuca, and from the mainland of British Columbia by the Canal de Haro, the Gulf of Georgia, Johnstone Strait and Queen Charlotte Sound. The coast is much indented and has numerous inlets. The principal ones are Nootka Sound, Barclay or Nitnat Sound, Victoria Harbor, Esquimault Harbor and Nanaimo Harbor. The city of Victoria is the capital of British Columbia. Its valley contains 300,000 acres.

On entering these northern latitudes, one who is not thoroughly acquainted with the geography of these shores, or the early explorations of the coasts, would probably be surprised at meeting with so many Spanish names. The fact is that the old Castillian voyagers have not to-day the credit that is their due, for, in change of hands and the vicissitudes which this country has witnessed in the course of centuries, many names have been changed or, from Indian or foreign corruption, have become so distorted as to be almost beyond recognition. Thus many a hardy

explorer has lost the last tie that binds his memory to this earth, and probably the only reward he might have gained by risk of life and sacrifice of comfort to benefit his kind, in dangerous exploration.

In rare instances have the changes in names been an improvement. The most striking examples of both classes of changes are probably Mt. Edgecombe in Sitka Harbor, which was called by the Spaniards, Mt. San Jacinto. The Florida Blanca Islands were renamed in the latter part of the last century by an English captain, who gave to the Islands the name of his ship—"Queen Charlotte." Through foreign interference, Boca de Quadra Inlet has become Bouquet Inlet, and in like manner has La Creole been metamorphosed into Richreall, though on the old charts they retain their original spelling. Juan Perez Sound in the Queen Charlotte group and many points north on the open sea coast, retain the names by which they were known centuries ago. In the Straits of Fuca is handed down to us the name of a more fortunate, yet probably less deserving adventurer—Juan de Fuca. The difference in the opinion of authorities as to the merits of Juan de Fuca's discovery of these Straits would make a most interesting chapter, though one not within the province of this work to enlarge upon. There are grave doubts as to Fuca ever having entered these waters. Vancouver, however, gave the Straits their name, and so it will be handed to succeeding generations. In the case of Fuca, certainly it was the only reward he ever received for the "discovery of the Anain passage to India."

We steam through the Gulf of Georgia from Active Pass, about ninety miles to Cape Mudge, at the



From Texada Island to Queen Charlotte Sound.

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southerly entrance of Discovery Passage. Through this Passage the water tears like a millrace, and about seven miles from Cape Mudge we pass through Seymour Narrows, where over a tremendous rock in mid-channel, the water fairly boils, and, at ebb and flood, tide-rifts swing the great steamer, making the passage of these rapids the most dangerous on the trip. It was at this place, that in June 1875 the U. S. S. "Saranac" was lost, and later in this neighborhood, the steamer "Grappler" burned and drifted to the Vancouver shore. Here the tourist meets the first of a series of surprises which, though he may be prepared for anything wonderful on the trip, will take him unawares.

The route from Cape Mudge lies between Vancouver Island on the west, and Valdes Island on the east, and though it is scarcely three-quarters of a mile across, the precipitious, evergreen-covered crags on either hand, tend to make the distance apparently much less, while the sombre cliffs to all appearances bring the voyage in this direction to an abrupt termination; but land gradually opens out to the right and we are peering in that direction, wondering what new grandeur is next to be observed, when, with a short turn to the left, the steamer rounds Chatham Point and the passage broadens into Johnstone Strait. The Strait tends westerly for about one hundred miles, where it connects with Queen Charlotte Sound through several short passes and channels, each under a name of its own.

On the southwestern side of Johnstone Strait, the mountains rise abruptly from the water to the height of from two thousand to five thousand feet, capped with eternal snow. From the snow line, oft times

to the water's edge, the evergreens, hemlock, spruce and cedar, with a rank undergrowth, hide the soil, save where the path of an avalanche has plowed down the mountain side and left a scar for ages. In some of these winrows the more delicate green of the moss which covers the stumps, fallen trunks and rocks comes out in charming contrast to the darker hue of the evergreen.

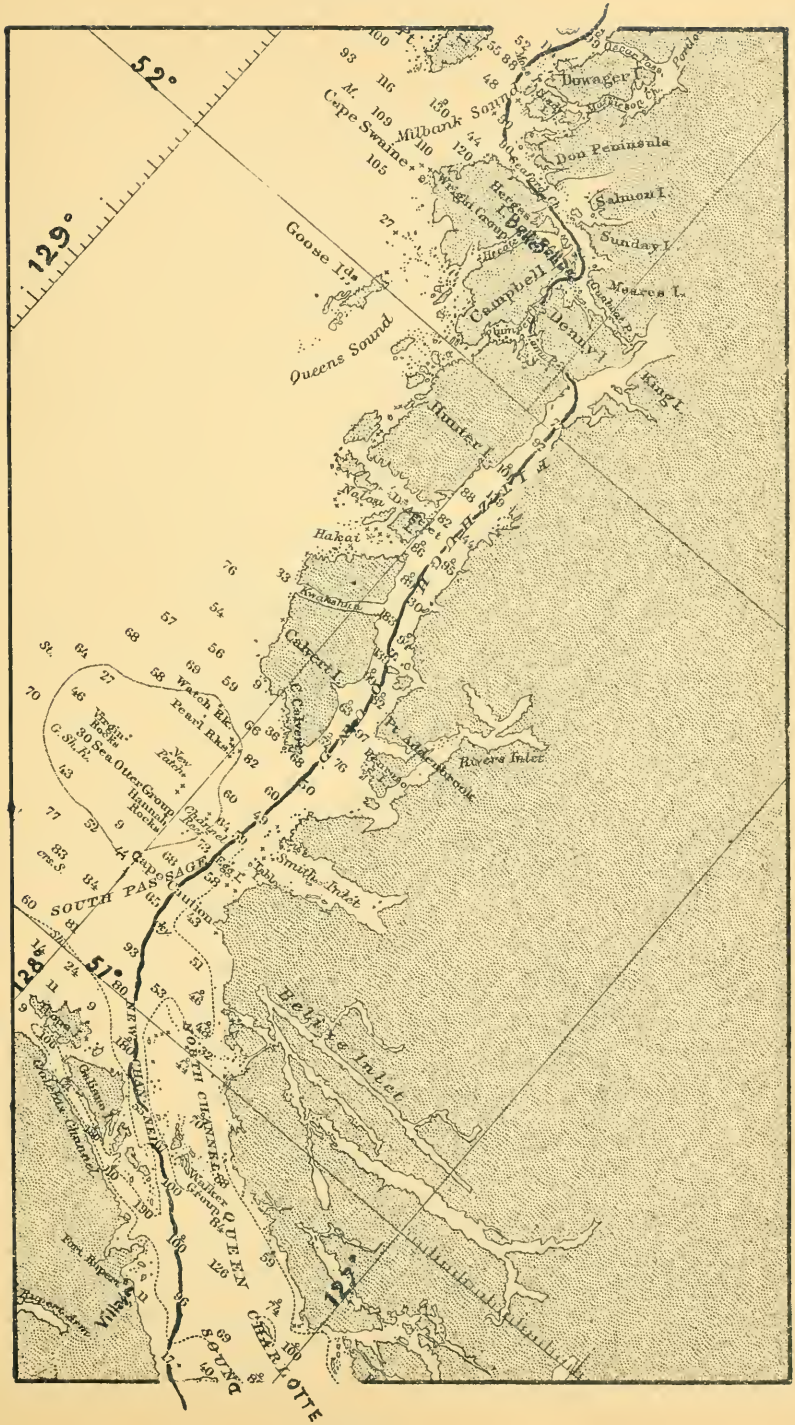
Beautiful valleys near the summits are many and in the warmer season melting snow forms into streams which, falling into the sea, create waterfalls of remarkable beauty, and so near the steamer that the spray is felt by those standing upon her decks.

This is one of the most tangled regions of this labyrinthian voyage. Long-reaching arms, narrow channels and deep fjords present themselves on every hand, extending far inland or forming islands, and at every crook and turn taking on a new name, presenting on the chart a perfect maze of quaint orthography. The steamer's course lies along the Vancouver shore and we pass through Broughton Strait, with Alert Bay opening on the western shore, to Queen Charlotte Sound.

Entering Queen Charlotte Sound we come for the first time under the influence of the Pacific's swell, and if a spell of *mal de mer* comes over the more sensitive, it is but slight and soon passes, for a short run brings us to the entrance of Fitzhugh Sound, at Cape Calvert, and the sheltering mountains of Calvert Island.

The open sea lends variety to the beauties of this wonderful panorama and adds a new touch of color to the greens of the surrounding foliage. The hills on the east are lighted up with all the beauties of

MAP No. 3.



52°
129°
128°
51°
Milbank Sound
Cape Swaine
Dowager I.
Don Peninsula
Salmon I.
Sunday I.
Meares I.
Campbell
Denny I.
King I.
Goose Id.
Queens Sound
Hunter I.
Hakai
Calvert I.
Watch Rk.
Pearl Rks.
Virgin Rocks
Sea Otter Group
Hannah Rocks
Cape Sage
SOUTH PASSAGE
Smith Inlet
Rivers Inlet
Belize Inlet
NORTH CHANNEL
QUEEN CHARLOTTE SOUND
Walker Group
Galiano
Galiano Channel
Fort Rupert
Rupert Arm
Villa

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the kaleidiscope. The red and brown of the mountain slopes and granite crags, the glistening white of the snow-capped peaks, and the deep, dark shadows in some of the gloomy and narrow inland bays, form a graceful blending of the blues of the ocean and the everchanging bright shades of the evergreen trees. Over these cliffs and crags the mountain goat rambles with that agility peculiar to his species. The mountains are clad from snow-line to water in dense coniferous forests, principally pine, hemlock, spruce and cedar, with some ash and a rank undergrowth, and the tenacity with which these gigantic trees cling to the precipices and thrive on the rocks and atmosphere is an everlasting source of wonder.

Fifty miles to the northward brings us to Lama Pass. Threading this narrow channel first due west, then again to the north, we come upon the first Indian hamlet on the route. It is a trading post called Bella Bella, prettily situated on the northern end of Campbell Island, and contains perhaps three or four hundred inhabitants, of which some twenty-five are white.

As we take a new departure north and west through Seaford Channel to Milbank Sound, thence northerly, gliding through miles of glassy green waters of Finlayson Channel, and successively through Graham, Fraser and McKay's Reaches, we are regaled with an ever-changing procession of mountain scenery, waterfalls, dark fjords and open stretches.

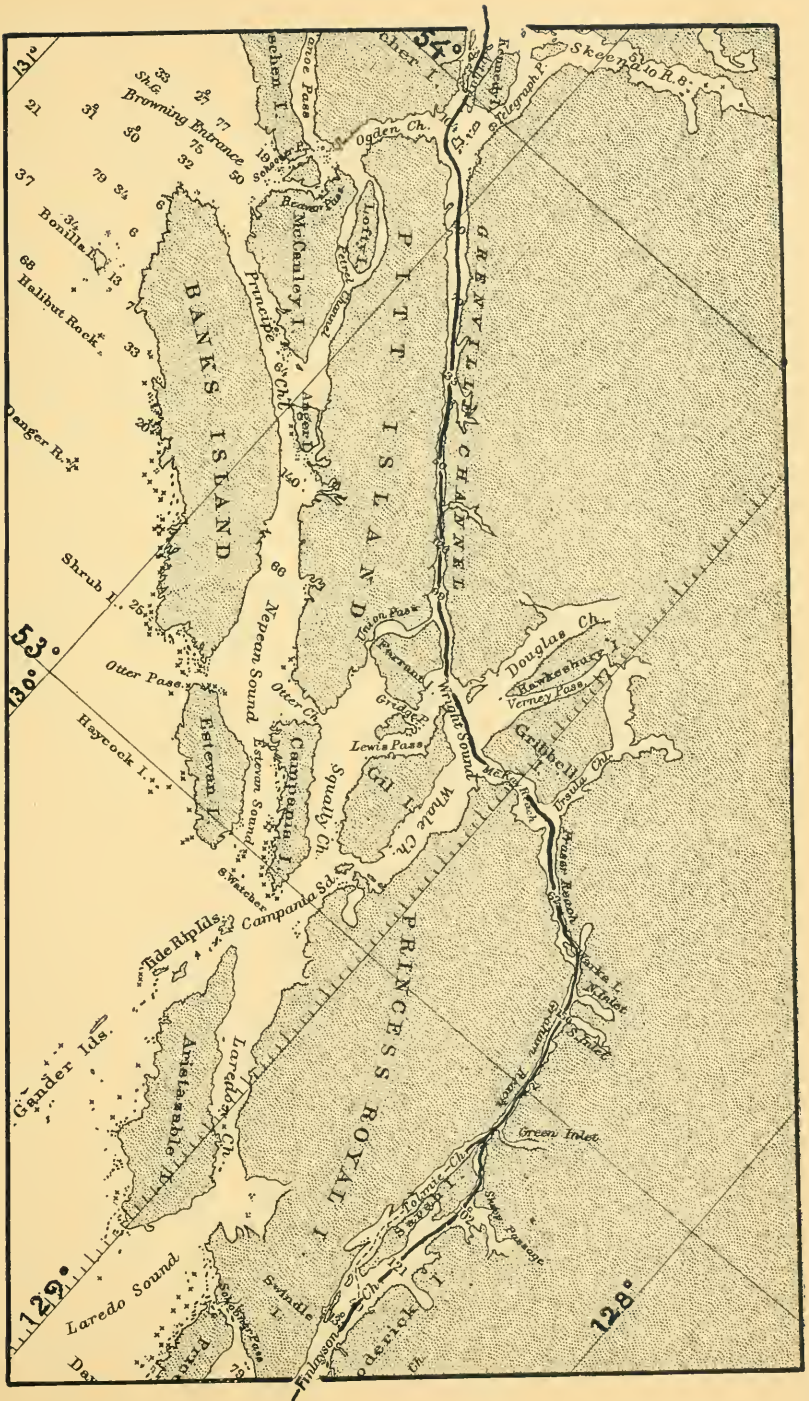
Crossing Wright Sound, with its long and unexplored arms, the ship steams into Grenville Channel, which, throughout its long reach of forty-four

miles, with barely a turn, has scarcely one indentation in its mountainous sides that could be called a cove. Chatham Sound connects with Grenville Channel by several small straits and the steamer's route takes us into one of these, Malacca Pass, through a maze of islands.

The steamer comes once more under the influence of the Pacific's agitated waters as we cross Dixon's Entrance. Passing Dundas Island, we leave in our wake the last vestige of foreign soil, and soon cross the boundary line between British Columbia and Alaska, which lies along latitude 54° 40′ to a point opposite Compton Island, where it passes northeasterly up the center of Portland Inlet. We are now in that jumble of islands and channels called, in honor of the Czar of Russia, the Alexander Archipelago. This maze extends from Dixon Entrance to Cross Sound, about three hundred miles in length and seventy-five miles east and west.

From Cape Fox the route is about seventy-five miles through Revillagigedo Channel, with Port Chester, or new Metlakatla on the west. The old historic Metlakatla Mission is located on Chin-say-an Peninsula. Thence thirteen miles through Tongas Narrows, and east into Behm Canal, we reach Loring in Naha Bay. It was at this place the steamship "Ancon" was wrecked on the morning of the 29th of August, 1889.

From Loring across Behm Canal the steamer runs about twenty-five miles to Yaas Bay, a most romantic spot. After visiting a cannery on its shores, we retrace our course at Loring and are seen heading up Clarence Strait. Wooded islands and snow-capped inland mountain ranges furnish the predom-



From Finlayson Channel to Malacca Pass.

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inant features of the landscape, while the same placid waters, perfect reflections, marvels in coloring, canoes darting along the shore, wandering birds, dark shadows and bleak distances go to make up many a pretty marine view.

Ninety miles from Loring the boom of the cannon on our forecastle gives evidence that we are approaching a town of some sort, and as the echo rebounds in volleys, deeper but softened by distance, the steamer swings round a point, and Fort Wrangell is revealed directly ahead.

Here are gathered the poor lodges of the Indians, the little better dwellings of the whites, and a cluster of buildings long past their prime, that once composed a stockade fort. The straggling, rickety appearance of the Indian huts and the gaunt totem poles before the doors, lend a weirdness to the immediate environment, while the dismal, but withal sublime scenery of this vicinity cannot but impress one.

This forlorn nook is a landmark in Alaskan history. It was here that in 1831, Baron Wrangell, a Russian explorer, then Governor of Russian America, preparing himself for war with the Hudson Bay Company, who were organizing a fillibustering expedition into Russian territory, sent Lieutenant Zarenbo to erect a fortress on this site. Zarenbo built a bastioned log fort, and soon after held his own and beat off a large force of the employees of that great English Company. In 1862, Wrangell was roused from her lethargy by the discovery of gold at Cassiar, in British Columbia. Wrangell was the nearest port to the Stikine River, up three hundred miles of which the tide of immigration rushed, and soon it became a little transfer station for all passengers and

goods, for it was here that the miners had to take the river boats. Troops were stationed here at that time, and business thrived while the mines prospered. A dull time followed the boom. The gold fever was revived in 1876, but was short-lived. Wrangell is now a comparatively large place and drives a large trade in curios.

The waters in Wrangell Narrows are streaked by the muddy, and, at times, chalky flow of the Stikine River, as it issues from its many deltas; the river waters are a dirty green, and vary in color considerably with the debris of the many glaciers which line its course. The current is so swift that, as the river cuts through the salt water, the line of demarkation is for miles very pronounced. From Wrangell Narrows we surround ourselves with the gloomy grandeur of Prince Frederick Sound. On the east the Patterson Glacier glides into the deep waters, and the Devil's Thumb appears in the distance, four thousand feet high. At Cape Fanshaw we round north, and steaming about sixty miles through Stephens Passage to Grand Island, leave Takou Inlet on our right and sail northeasterly up Gastineau Channel about fifteen miles to Juneau.

In 1879 gold specimens from this region were brought in by the Indians, and a year later a prospector named Juneau, with some associates, arrived and staked out the future city. After many changes Juneau was settled upon as the title by which the town should be known. Beautifully situated at the base of an abrupt mountain and surrounded by the picturesque, nature has done much for this metropolis of Alaska. Her estimated population of about three thousand, is composed of that rough element

From Malacca Pass to Cleveland Peninsula.

usually to be found in a mining camp and they, until the United States shall give them laws, have established a code of their own. The town is liveliest in winter, when the severity of the climate drives in the miners from the placer diggings of the Silver Bow Basin and other mining camps. A. T. and J. C. Howard publish an excellent weekly *The Alaska Free Press*, and Frank H. Meyers is the editor and publisher of the *Juneau City Mining Record*, also weekly, and a sheet of fine typographical appearance. Douglas Island, on which is situated the Treadwell Mine, is opposite Juneau and forms the southwestern shore of Gastineau Channel.

Returning in our wake to Stephens Passage, we skirt the northern shore of Admiralty Island and enter Lynn Channel, by Favorite Channel, getting a view of the Auk and Eagle Glaciers in the east and later we view the great Davidson Glacier which comes down from the mountains on the western side of the Channel. Glaciers are now becoming numerous, and by this time we have seen a dozen of greater or less importance.

Lynn Channel separates at its head into two branches or forks, one becoming the Chilkoot Inlet while the other is the outlet of the Chilkat River, which is the pass over the mountains to the Yukon River. At Chilkat on Pyramid Bay, the tourist reaches the most northerly point on the voyage, 59° 11′. In this vicinity game is abundant and bear, deer and others are to be seen from the steamer. After being shut down for some years on account of the hostility of the natives, three canneries are in operation during the busy season, affording ample employment to the colony of Indians gathered there.

Returning en route to Glacier Bay, the steamer proceeds south along the western side of Lynn Channel to Point Couverden, then once more we head northwesterly through Icy Straits to the entrance of Glacier Bay. Darting into Bartlett Cove and gliding by Willoughby Island, we rest before the great Muir Glacier. Far away to the northwest Mt. Fairweather, her great height of 15,500 feet lessened in the perspective, keeps watch over the cold, grey coast. Nearer at hand Mt. Crillon towers in all the sublimity of her 15,900 feet, while Mt. La Perouse peers through the mist out upon the bay from her summit 11,300 feet above the water.

From Glacier Bay to Sitka, there are two routes which may be taken. One is west through Cross Sound out upon the ocean and down the coast. If we take the other, which is much preferable, we retrace our course through Icy Strait as far as Spaskaia Bay, and here we go south through Chatham Straits to Killisnoo.

At this place are situated large cod fisheries, and probably the largest fish-oil plant in the world. The codfish are dried artificially. From the ulikon or the herring the oil is extracted and the solids that are left is converted into a fertilizer, so that the odors that penetrate the atmosphere about Killisnoo are not of the most agreeable kind. Of late years this company has furnished a fine quality of cod liver oil. The "character" of the place is "Saginaw Jake," an old chief, who derives his name from having been for some time a captive aboard the U. S. S. "Saginaw" as hostage for the good behavior of his people, who were, in 1869, very warlike. Jake is a queer individual and will afford the visitor a fund of amuse-

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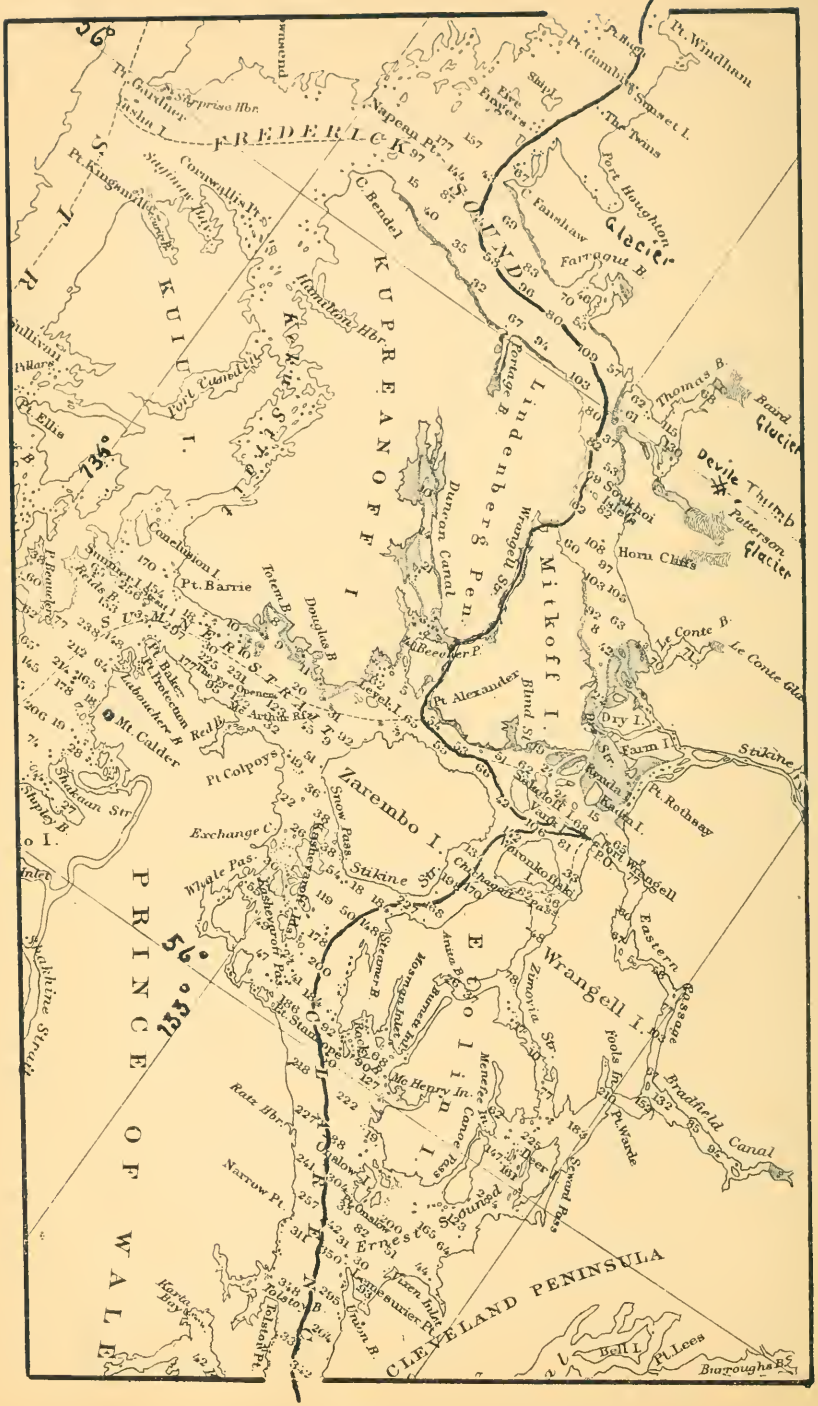

From Cleveland Peninsula to Stephens Pass.

ment. His house is embelished with a large wooden eagle, nicely carved in the center of which is a window, and this fact has given Jake the opportunity to perpetrate the only Indian pun that is heard in all Alaska. He always calls attention to his "Mountain Eagle with a pain (pane) in his breast." Jake wears a policeman's star as large as a tin plate, dresses like a brigadier-general, and always salutes the tourists that leave the steamers.

Across Chatham Strait we enter a pretty, tortuous and swift-flowing bit of water, aptly styled Peril Strait, the scene of the wreck of the "Eureka." Fitting as the name seems, Petroff tells us that it was not exactly for this reason that it was so called, but from the fact that a hundred of Baronoff's hunters were poisoned here from eating mussels.

We turn south on emerging from Peril Strait, still threading our inland way, and soon Mt. Edgecumbe stands out upon our starboard bow to greet us. When Mt. Edgecumbe has been numbered with the beauties of the past, Mt. Verstova, with the town clustered about its base, comes into prominence. The first of old, moss-covered Sitka that one sees is the Baranoff Castle on an elevation, some sixty feet above the water; then the emerald green dome of the Greek Church strikes upon the vision in bold relief against the sky, and picking our way among Sitka's thousand islands we land at the wharf, off the capital of Alaska.

Sitka had been, for some thirty years previous to the change of government, the headquarters of Russian supremacy and the seat of the Greek Catholic hierarchy in Russian America, and is now the capital of that vague judicial government which Con-

gress gave the Territory two years ago. Baronoff visited the present site in 1799 and built a fortress where, three years later, occurred a great massacre of the Russians. He returned in 1804 and built a new fort, which he put under the patronage of the Archangel Michael, the place having previously been under the precarious guardiance of Gabriel, and the town which grew about it received the name of New Archangel. In 1832 Baron Wrangell transferred the colonial capital from St. Paul, Kadiak Island, to Sitka, and the place assumed a new importance.

Since Baronoff's time the Castle has been remodeled and passed on to partial decay. The old yellow buildings of the Russians have, for the most part, passed into a state of decline; traces of once busy shipyards are scarcely visible, while the encroachment of time leaves a rookery of the lively clubhouse and obliterates all vestage of that extravagance of the early Governors—the race-course. An old grave-yard with its moss-covered crosses give evidence of antiquity, and an occasional fallen slab marks a neglected grave of greater importance. The Greek Church alone remains in some sense to attest past luxury and display. The structure is not imposing from without, but within all is sanctified grandeur in the coloring and appointments, and its chimes, its paintings, vestments and candlesticks and chandeliers of massive silver remain as of old. But even this building has passed its prime and the shadow of encroaching years dims the luster of the emerald domes and roof, while Time makes his presence felt in the decay about. The church is built in the form of a Greek cross. The paintings of the Saints and the Madonna are, most of them, fine, and

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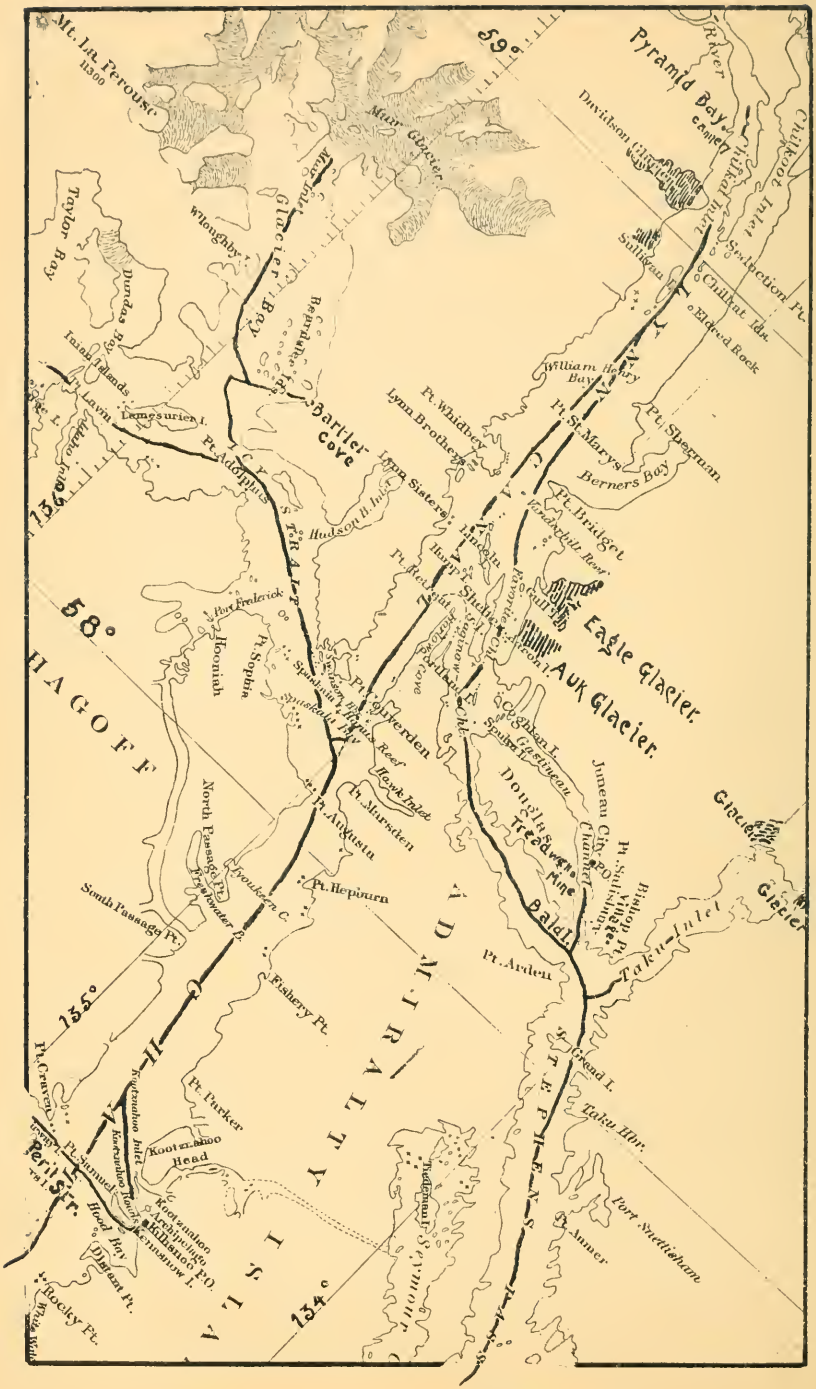


From Stephens Pass to Muir Glacier.

the massive inlaid work of gold, silver, ivory and gems, representing the Last Supper, the Madonna and the Child, and similar subjects, are a marvel of richness and beauty. Large brass doors divide the altar from the auditorium, which is under the central dome, but the gates are open during part of the service, giving the worshippers a good view of the interior magnificence. The priestly raiment is rich in color and material, and the service, which is orthodox, is ceremonious and impressive.

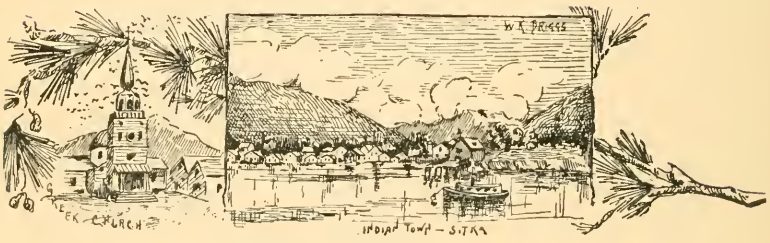
At Sitka, Maurice E. Kenealy, son of the celebrated English barrister of that name, publishes a well-conducted weekly paper called *The Alaskan*. The *North Star* is published monthly by Dr. Sheldon Jackson in the interest of the schools and missions.

The town is built in one street which continues as a broad road for a mile to the beautiful Indian river. The prospect from the town is grand. From Mt. Verstova, mirrored at our feet, out over the island-studded bay we have a view which would be hard to excel. Mountains rise on every hand that, grim-visaged, look down upon the town as from an amphitheatre and return an echo as an answer to our salute as we head homeward.

The reader having followed the steamer's course indicated upon the accompanying maps will have been able to locate the principal points of interest along the route. This route seldom varies, and when it does, the steamer goes one way and returns the other, lending variety to the trip.

The following is a correct table of the actual sailing distances between the various points along the Inland Passage, from Tacoma to Glacier Bay and Sitka, prepared by Captain Wallace of the "Ancon."

Tacoma to Seattle	24	miles
Seattle to Port Townsend	38½	"
Port Townsend to Victoria	34½	"
Victoria to Departure Bay	78	"
Departure Bay to Tongas Narrows	572	"
Tongas Narrows to Loring	24	"
Loring to Yaas Bay	22	"
Yaas Bay to Wrangell	100	"
Loring to Wrangell	78	"
Wrangell to Juneau	143	"
Juneau to Chilkat	89	"
Juneau to Glacier Bay	110	"
Chilkat to Bartlett Bay	80	"
Bartlett Bay to Glacier Bay	25	"
Glacier Bay to Killisnoo	76	"
Glacier Bay to Sitka	144	"
Killisnoo to Sitka	78	"
Sitka to Juneau	152	"
Sitka to Chilkat	175	"
Juneau to Killisnoo	89	"



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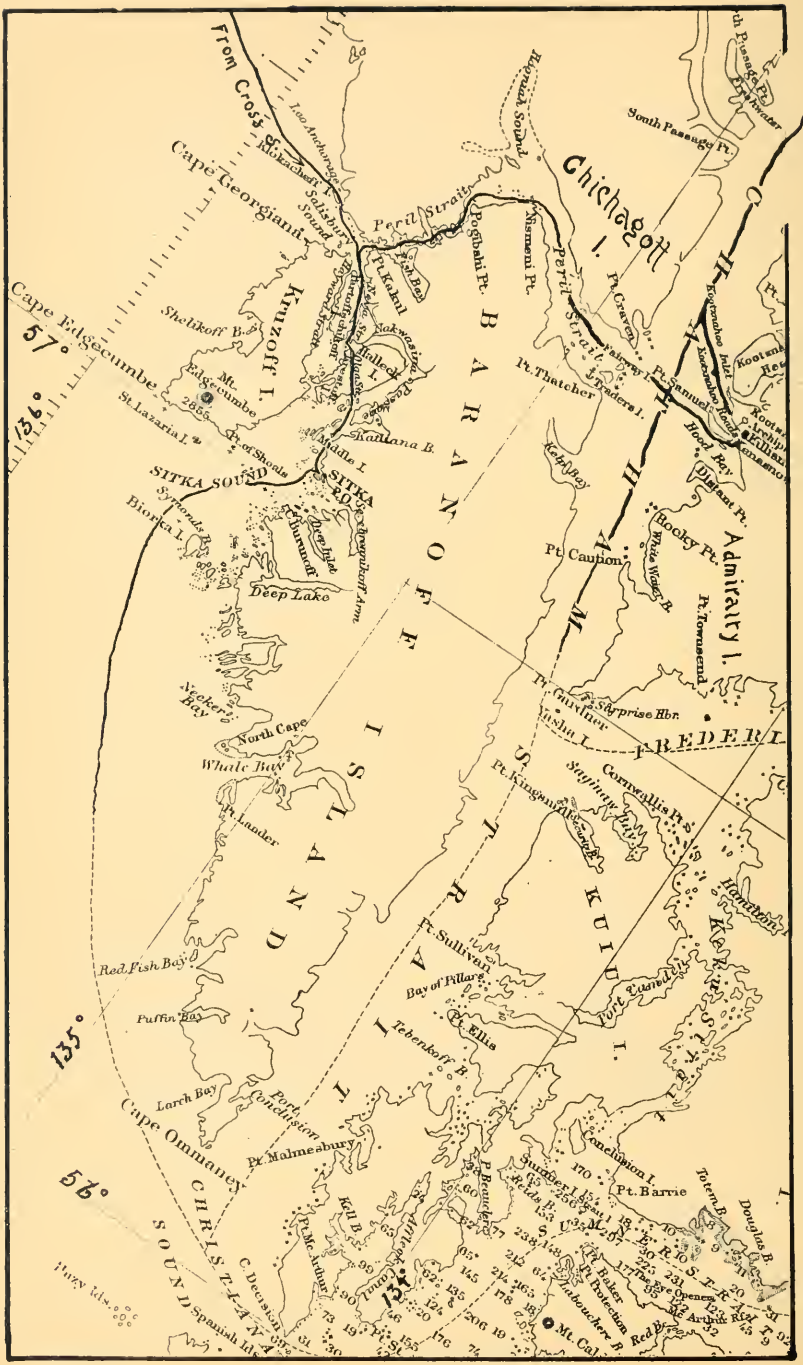
MAP No. 8.

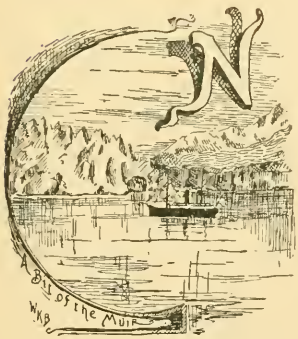


From Cross
Cape Georgiana
Kruzoff I.
Cape Edgecumbe
Shelikoff B.
Mt. Edgecumbe
2855
St. Lazaria I.
Pt. of Shoals
SITKA SOUND
SITKA
Biorka I.
Deep Lake
Peril Strait
Pt. Kakul
Kaniana B.
Middle I.
Chichagoff I.
BARANOF ISLAND
Pt. Thatcher
Pt. Caution
Rocky Pt.
Admiralty I.
Pt. Townsend
Surprise Hbr.
Pt. Kingsmill
Cornwallis Pt.
KUIU I.
Pt. Sullivan
Bay of Pillars
Pt. Ellis
Tebenkoff B.
Red Fish Bay
Puffin Bay
Larch Bay
Cape Ommaney
Pt. Malmesbury
Port Conclusion
Conclusion I.
Pt. Barrie
Spanish Isl.
57°
56°
135°
136°

CHAPTER IV.

THE GLACIERS.

THE NATURAL FORMATION OF A GLACIER.—BIRTH IN THE MOUNTAINS AND GRADUAL DESCENT TO THE SEA.—DR. KANE'S THEORIES.—EVIDENCES OF GLACIAL ACTION IN THE SIERRA NEVADAS AND ROCKY MOUNTAINS.—PROF. MUIR'S DISCOVERIES.—DESCRIPTION OF THE GREAT MUIR GLACIER.—THE PACIFIC.—DAVIDSON.—TAKOU.—RAINBOW.—AUK AND EAGLE GLACIERS.—PROF. MUIR'S EXPLORATIONS.—THE EXTENT OF GLACIAL ACTION.—INVESTIGATION IN GREENLAND.—MORAINES.—DEFINITION, DESCRIPTION AND CHARACTERISTICS.—MORAINES AND EVIDENCES OF PREHISTORIC GLACIERS IN THE UNITED STATES.



NOAH Webster defines a glacier to be "a field or immense mass of ice, or snow and ice, formed in the regions of perpetual snow, and moving slowly down the mountain slopes or valleys." By many it is claimed that a glacier is a river of ice; that is to say, a stream seeking its course from the mountains to the sea, under such climatic conditions as to congeal the water, but which, under the force of gravitation, must pass down as a solid mass between the confining walls, until it reaches an altitude where the

temperature, disintegrates and fractures it, and that the fragments seek the sea in the form of icebergs. That the glacier is the mother of the iceberg, goes without saying, because scientific investigation and research have clearly demonstrated such to be a fact. It is contended, however, by other observers, that the formation of a glacier is not necessarily dependent on a water course, and that it can and does exist without the confining banks of a stream as its habitat; but as all descending material from mountains, whether solid or fluid, it naturally seeks the most available depressions in the mountains. This impression of the glacier is in mountainous countries above the snow-line, where there is a constant accumulation of snow under a temperature too low to permit any great proportion to become melted and to flow down in the form of water, and hence these accumulations fill the ravines, canyons and other depressions, solidifying either by pressure or by alternate melting and freezing. This ice—a so-called solid—must in the course of gravitation follow the incline of the orifice in which it is confined, and the movement is naturally downward, the front presenting an apparent wall of ice, with the tremendous pressure to the rear constantly pushing the frozen column downward to an altitude where, in most cases, it meets the ocean and breaks off into icebergs melting as it reaches warmer latitudes. Dr. Kane, the great Arctic explorer, describes having seen in Greenland, in 1855, in latitude 79° 80′, glaciers extending over the western coast, and sloping so gently toward the water that an inclined plane was scarcely preceptible; yet the solid body of ice was constantly moving toward the bay, where masses

GLACIER BAY, FROM TOP OF MUIR GLACIER, LOOKING SOUTHWEST.

From photograph 7806, by PARTRIDGE, Portland, Ore.

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would break off and float out to the ocean as icebergs. Glaciers of this class are certainly not ice-rivers or "frozen Niagaras," as some writers describe the Alaskan glaciers.

Dr. Kane went so far as to conceive of a great unbroken mass of moving ice extending more than one thousand two hundred miles from this glacier to the southern extremity of Greenland. Arctic research has not taught us a great deal of value since Kane's time, and his glacial theory has neither been exploded nor verified, but the discovery of the great glaciers of the Alaskan region certainly gives some color to a belief that he came very near the mark in his idea of a great glacial belt. Evidences of glaciers are prominent in the Sierra Nevadas and in the Rocky Mountain Range, and the plain signs of erosion by a force so tremendous, that it could only have come from glacial action, are so apparent that no other conclusion can be arrived at other than that, in the past, these mountains were the breeding place of glaciers, which in the natural course of gravitating forces, swept down to the sea, marking the face of Nature with seams and furrows as they rushed on in their irresistible courses. Clarence King, who is pains-taking, scientific, reliable and thoroughly worthy of credence, discovered glaciers on the north side of Mt. Shasta in 1870. Small glaciers have also been found on Mt. Tacoma, Washington, and on Mt. Hood in Oregon, and also on the mountains of the Yosemite and in the Sierra Nevadas, Professor Muir having located and named over twenty. The explorers who have found glaciers in various parts of the world, and who adhere to the theory that the glacier produces the iceberg, are too

numerous for mention here, but their testimony and narratives add largely in creating an interest in the glaciers of Alaska, which are undoubtedly the greatest of modern times, and which open an almost unlimited field for scientific research. The greatest of these is undoubtedly the Muir Glacier, at the head of Glacier Bay, which is closely followed by the Pacific Glacier, lying west of the Muir, and whose rugged moraines, deep crevasses, together with the impossibility of reaching the glacier in safety by any route, has left this unexplored until an exceptionally open summer permits the entry of some daring explorer.

One of the grandest views of Alaskan glaciers is at Yakatat, or Behring Bay, looking at the St. Elias Range of mountains or, as they are euphoniously termed, the "Alaskan Alps." The scenery here is magnificent beyond conception. The mountains, from tide-water to the summit, are clothed in perpetual snow and glistening with huge glaciers. As in all mountainous countries, the air is intensely rarefied, permitting of the extension of vision to great distances and, as the mountains range in height from sixteen thousand up to twenty thousand feet, the effect on the eye of the sun's rays on that great range of snow and ice, can scarcely be imagined, and to attempt to describe it is a task most difficult, and all but hopeless. The height of Mount St. Elias itself, is placed at twenty thousand feet, and, though some sixty miles distant, it is plainly discernible, from base to summit, from Yakatat. The statement that has been made that Mount St. Elias is the highest mountain in North America is disputed by Lieutenant Allen, who asserts that Mt. Wrangell, a volcano at the forks of the Copper River, in eastern-central

Alaska, is the highest snow mountain on earth, so far as known, outside of the Arctic and Antarctic regions, and also excepting Greenland, and carries the most extensive glaciers known. There are said to be at the base of the range in which this mountain is contained, two thousand four hundred square miles of flat plains of ice between the mountains and the sea, all included between Cross Sound and the Copper River. The reader's natural supposition would be that within such a region all would be sterile and forbidding, and that vegetation could not exist. This, however, is not the case, as along the banks of the stream and at the very edges of the glaciers, wild flowers and grasses flourish luxuriantly, while the music of numerous song-birds fills the air. A wild strawberry of large size grows in profusion and is of the most delicate flavor. Humming-birds are also quite common. A writer who accompanied one of the exploring expeditions is enthusiastic over two dishes that were served to him at Yakatat by the natives, one being humming-birds with clam sauce and strawberry short-cake made from cornmeal. Lieutenant Schwatka also speaks of the luxuriance of vegetable growth extending from the edges of the glaciers to the shore-line, and describes it as being absolutely tropical.

Among the more notable of the great glaciers is the Davidson, on Lynn Channel near Chilkat. It comes down the eastern side of the watershed of which the Muir Glacier occupies the western slope, and their sources, rising as they do in the same summits and disconnected, if at all, by but a few miles, have led some authorities to call the Davidson a branch of the Muir, but they are as distinct as two

rivers seeking the sea, one by either slope of a mountain range. The Davidson is one of the most beautiful glaciers of Alaska. Its great sloping area between the mountains suddenly rounds and broadens out three miles, its serrated, pinnacled face of brilliant blue towering twelve hundred feet. The glacier ends in a terminal moraine which is covered with a dense forest about two miles deep and rising one hundred feet, the green presenting a beautiful and striking contrast to the blue and white of the snow and ice which forms the background. With these inland glaciers the ice does not find its way to the sea, but melting runs off in streams, as is the case with the Davidson, where, at each side of the glacier, a small river empties the melted ice into the Channel. The Glacier is worthily named for Prof. George Davidson, who, in his capacity as Assistant Coast Surveyor, has done much for Alaska in observation and exploration. A fact worthy of mention in connection with the glaciers of Alaska, is that ships supplied the Pacific Coast with ice in the early days of California, and "Sitka Ice" was a common sign in San Francisco as late as 1856. This was before the day of that great adjunct of civilization, the ice machine, and before there was a railroad to bring the great ice resources of the Sierra Nevada to San Francisco's door. Ice was ice in San Francisco in those days, and commanded what would now seem a fabulous price.

Notwithstanding all the investigation and all that has been said and written about glaciers, they still remain a phenomenon, and, to a certain extent, a mystery. The only data on which to estimate their rate of motion is the result of Prof. Muir's extended

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FRONT OF DAVIDSON GLACIER.

From photograph No. 3, by WINTER PHOTO CO., Eugene, Ore.

experiments to the velocity of the many glaciers he has explored. Across the top of the Muir Glacier he placed a row of signal stakes, about two miles from the great wall of ice facing the Bay, and, in twenty-four hours, he made a new survey, and found that on the shore side, by reason of the great erosive friction the movement had been but a few inches, while in the centre of the Glacier the ice had traveled seventy-eight feet, and the line of stakes were in the form of a bow, the centre bending toward the sea. The movement of the edges is slow, but the line of demarkation between the ice and the parallel moraine is perfectly defined, and so plain that for miles there is not a spot where the visitor cannot put one foot on the moraine and the other on the glacier. It is certain, however, that the gradual descent is such in the glacial system of the coast ranges of Alaska and British Columbia that the glaciers are rapidly decreasing in size and that the climate is growing drier and warmer. The tracks of the recession of the ice bodies are plainly noticeable at Bute Inlet and Stikine, where there is at this time but slight erosive action, and small streams of pure water issue from the faces of the glaciers. Another notable glacier is that of Takou, on the glacier arm of St. Stephens Strait. The Hudson Bay Company's men and the Russians navigated the Takou Inlet as early as 1840 and the Company established a trading post in the shadow of the glacier.

Rainbow Glacier is another of the Lynn Channel system. It is called "Rainbow" from the fact that the ice in falling and crashing from a tremendous height into the channel below gorges in the form of an arch in which, in the sunshine, is reflected all the

colors and tints of the rainbow, and which forms a sight of grandeur once seen never to be forgotten. The great Auk Glacier is also one of the Lynn Channel system, and is exceeded in size only by the Muir, the Davidson and the Eagle. On Lynn Channel, which was named by Vancouver after Lynn, England, there are no less than nineteen important glaciers, and Lynn Channel is pronounced by all Alaskan travelers as one of the most interesting and at the same time charming points in the Territory.

The author of this book has derived a great deal of information concerning the glacial period theories, and known existing glaciers in Alaska from Prof. John Muir, who was one of the pioneer scientific explorers of the Alaskan region, and who was the first recorded white man who ever gazed on the glacier which bears his name. Prof. Muir had for his guide the charts of Vancouver, whose explorations dated ninety years before Muir's visit, but such had been his care and caution in surveying the streams, their water-sheds and confluences, that, after this lapse of time, Prof. Muir found the Vancouver charts an infallible guide. The coast-line marks are to-day recognized as a guide by navigators, and each bay, inlet, channel, cove and roadstead noted by Vancouver is to-day a point for the guidance of navigators, traders and explorers. The numerous islands which go to make up the terra firma of American territory, in what is known as Alaska, are all correctly placed on the charts, and all subsequent soundings made by the United States have confirmed those made by Vancouver.

When Muir reached Cross Sound, he took an ancient native guide, and two or three Indians to

propel his canoe and accompany him up Glacier Bay. It being known that fuel was not to be found in a large distance surrounding the Glacier, such space as could be spared was stored with dry cedar and pine boughs, to make sure that Muir and his brave band could have camp-fires over which to warm themselves and cook their food. When Muir and his companions reached a point in the vicinity of forty miles of the Glacier, Vancouver's charts gave out; that is, they showed that the British explorer had met an obstacle which prevented him from approaching nearer to the great moving frozen river. The appearances, however, show that a fracture must have occurred, shortly after Vancouver's time, by which some thirty miles of the Glacier were broken off and consequently disintegrated and carried seaward.

Prof. Muir, in describing this great example of Nature's irresistible forces, said to the author that the front and brow of the Glacier was "dashed and sculptured into a maze of yawning chasms, ravines, canyons, crevasses and a bewildering chaos of strange architectural forms, beautiful beyond the measure of description, and so bewildering in their beauty as to almost make the spectator believe that he was reveling in a dream." "There were," he said, "great clusters of glistening spires, gables, obelisks, monoliths and castles standing out boldly against the sky, with bastion and mural surmounted by fretted cornice and every interstice and chasm reflecting a sheen of scintillating light and deep blue shadow, making a combination of color, dazzling, startling and enchanting.

The day on which the professor made his first visit was warm, and back of the broad, waving bosom of

the glacier water-streams were outspread in a complicated network, each in its own frictionless channel cutting down through the porous, decaying ice, of the surface into the quick and living blue, and flowing with a grace of motion and a ring and gurgle, flashing a light to be found only on the crystal hills and dales of the Glacier. Along the sides, he could see the mighty flood of ice grinding against the granite with tremendous pressure, rounding the outswelling points, deepening and smoothing the retreating hollows, and shaping every portion of the mountain walls into the forms they were meant to have when, in the fullness of appointed time, the ice-tool should be lifted and set aside by the sun. Back two or three miles from the front, the current is probably about twelve hundred feet deep; but when we examine the walls, the grooved and rounded features plainly show that, in the earlier days of the ice age, they were all overswept, and this Glacier flowed at a depth of from three to four thousand feet above its present level.

Prof. Horace Briggs thus describes this wonderful frozen river:

"It is forty miles long, and back on the land, in a basin of the mountains, being re-enforced by fifteen tributaries coming down the glens from different points of the compass, it swells to an icy sea twenty-five miles in diameter. Thence it moves with resistless power, bearing rocks and long lines of detritus on its billowy surface. Just before it reaches the Bay, it is compressed by two sentinel mountains, and is forced through a gorge over one mile in width. Emerging from this narrow gateway, it moves on, at the rate of sixty feet a day, to the waters whence it

originally came, buttressing the Bay with a perpendicular wall a thousand feet high, three hundred feet of ultramarine crystals tipped with purest white being above the surface, and, being pushed beyond its support in the underlying rock, a battle begins between cohesion and gravity. The latter force always prevails, and vast masses break from the glacial torrent with the combined crash of falling walls and heavy thunder, and tumble into the Bay with a dash and a shock that agitates the waters miles away, making navigation perilous to craft of all sizes. The almost deafening roar made when these masses are rent away, the splashing baptism they receive in their fall and the leaping waters, are lively witnesses to the birth of an iceberg, which henceforth, as an independent existence, goes on girding the shores, butting against its fellows, and scaring navigators. While the ship was resting unmoored near the front of this icy barrier, we were startled by the sudden appearance of a mass of dark crystal, vastly larger than our own ship, shooting up from the depths, and tossing our steamer as if it were an egg-shell. As the vessel careened, the frightened passengers were sent whirling against each other, over chairs or prostrate upon the deck. This strange visitor had doubtless been broken off from the roots of the icy mountain, hundreds of feet below the surface, and hence had unexpectedly appeared upon the scene. Had it struck the ship fairly, nothing but a miracle could have saved us. Having recovered somewhat from our amazement, about twenty of us were sent on shore in the Captain's gig. Landing some distance below the ice-wall, we climbed over a hundred feet up a lateral moraine, crawled shoe-deep in wet gravel

down into the valley of a glacial river, forded it, paddled through glacial mud covered with a shingle of slime just deep enough to hide the creamy pools, slipped prostrate upon ice made treacherous by a thin disguise of detritus, and barked our shins and cut our shoes on the sharp, angular blocks of granite and basalt strewn for miles, in great profusion, along our perilous route.

"Blocks of finest marble hedged our pathway; we trod upon chips of jasper and chalcedony, the product of different mountains far up on the Peninsula, and we passed two exquisitely beautiful boulders of veined porphyry weighing two or three hundred pounds each, rounded and polished by centuries of attrition. They were of dark purple, streaked with quartz spotlessly white, very desirable specimens for a cabinet or for out-door ornamentation. After more than an hour of plunging and sprawling, and of pulling each other out of the grey mire, about half of our number reached the uncovered glacier. At the first glance we felt that here we should stand with uncovered heads, for we were in the presence of the marvelous manifestations of superhuman power in action, and looked with unveiled eyes upon the potent agencies by which much of this planet has been fashioned. Away in the distance was the white lake fed by numerous frozen rivers, and these rivers were born of mountain snows fifty miles distant. The white-robed mountains themselves, aeons of the past, were smoothed and grooved far up their flinty sides, when this same glacier was three-fold deeper, and many times more ponderous and mighty than it is to-day. Stretched along the base of the mountains to where they are only a line in the distance, were

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CREVASSE ON TOP OF MUIR GLACIER.

From photograph 7966, by PARTRIDGE, Portland, Ore.

the records of those grey old years in the form of moraines, one hundred feet high, and appearing like a range of hills. The larger portion of this crystal river, perhaps an eighth of a mile in width, is heaved into rounded hills and beetling precipices, quite resembling the sea in a storm, while the middle and much of the wider part is splintered into countless spires and needles and pinnacles, ten, twenty and thirty feet in height, and of a beautiful ultramarine at the base, shaded to a pure white at the summit. In the onward march of the Glacier, these pinnacles are occasionally wrenched from their seats in the solid ice beneath, they nod, then totter, and then make a plunge, and are shattered into a cloud of acicular crystals that sparkle like the frosted snow under a full moon of a winter's night, only with more of color; they are diamonds on the wing. Again, the whole surface is riven by a thousand crevasses, along the bottom of which streams of clear water find their way, often broken by waterfalls that plunge farther down into the dark blue abysses out of sight. These chasms are frightful gaps to one peering down a hundred feet or more between their turquoise walls. A slip, a frail alpenstock, a feeble grasp of the guide's rope, and gravity would close the scene without further ceremony. The molecular structure of the glacier is continually changing, adjusting itself to the elevation and depressions of its rocky bed, and hence there is an incessant clicking and crackling, interrupted here and there by an explosion, heard over every inch of the surface. The whole scene is weird, and strange in sight and sound —in the voices that rise in the air from the azure depths—fascinating because every step is perilous,

majestic from its massiveness, and awful because its march is irresistible. Consider what a force in wearing away mountains and glens an icy torrent must be, more than one mile wide, almost a thousand feet deep, and in the middle flowing about seventy feet a day. It goes grinding, and groaning, and cracking in startling explosions, all mingled in a loud wail like that from the Titans imprisoned under Mt. Ætna. Now let any one in fancy frame for himself this picture:

"Snow-capped mountains in the background, two of them, Fairweather and Crillon, more than 15,000 feet high, thick set with glittering peaks and clear cut as silhouettes on a dark sky; the great Glacier, child of Arctic snows, turreted and pinnacled, and splintered into a thousand strange forms, upon which Iris has flung the varied hues of amethyst, turquoise and sapphire; huge masses riven from the crystal river with a thundering roar, reeling and toppling into an amber sea, thickly dotted with new-born and vagrant icebergs, and all this scene glorified and transfigured by the setting sun. Looking upon this picture through the creative power of imagination, one can readily conceive that the enraptured tourist, standing in the presence of the realities, would call that day spent with the Muir Glacier, the day of all days he ever passed in gazing upon and listening to the wild wonders of our planet."

All contemporary authorities coincide as to the grandeur and extent of the Muir Glacier. The evidence of the more recent visitors is not only corroborative of that of Muir and the early explorers following him, but becomes so enthusiastic that it would seem to run to exaggeration were exaggera-

tion possible to the beholder of one of the grandest and most awe-inspiring spectacles of the power of natural forces.

Rev. Thomas Rogers, of Rochester, New York, in describing the Muir Glacier, designates it, a "frozen Niagara." He particularizes that great congealed cataract as stretched across the neck of Glacier Bay, a distance of several thousand feet, and rising perpendicularly a distance of three hundred feet, and extending below the water about seven hundred feet.

Prof. Frederick G. Wright, of Oberlin, Ohio, estimates that the ice-discharge of the Muir Glacier into the waters of Glacier Bay is 140,000,000 cubic feet of the clearest ice in every twenty-four hours.

Kate Field, whose great descriptive powers are so well known, says that no pen can do justice to the grandeur of a glacier like the Muir, as all become spell-bound at its majestic and irresistible force and indescribable beauty.

"Imagine," says she, "Niagara Falls frozen a solid wall of ice, three hundred feet high, moving toward the ocean at the rate of eighty feet a day, and a similar wall six or seven hundred feet under water and the whole mass cracking and giving forth peals of thunder that rival the heavenly artillery, and every few moments thousands of tons of lovely blue ice, crashing into the sea and starting on a voyage as icebergs—a peril to the Arctic voyager—and you will have some slight conception of this imposing spectacle."

No important glaciers are found in the Rocky Mountains which is anomalous, considering the great height of that range. A few small glaciers, however, are found in the Wind River range in

Wyoming and near the headwaters of the Flathead, in Montana. The most southern series of glaciers in the Sierra Nevadas are in Tuolumne and Mono Counties, just east of the valley of the Yosemite. The greatest of these, however, is not over a mile in length and none extend below an altitude of 11,000 feet. The next glaciers of any importance are on Mt. Shasta, California, and then in the Cascade Range in Washington, particularly on Mt. Tacoma. The waters of the Cowlitz, the Nisqually, the Puyallup and White Rivers originate in glaciers high up in the flanks of the mountains. From Mt. Tacoma northward the glaciers increase in size and number through the Coast Range of British Columbia and southern Alaska to the Mt. St. Elias Range of Mountains. It is not, however, until the Stikine River in Alaska is reached—in latitude 57°—that glaciers become easily accessible and of size sufficient to warrant study. The water emptying into the Sound from Stikine River is highly charged with glacial mud—a sort of "float," as a mining prospector would call it, which acts as a guide to the glacier above, but the greatest of the glaciers in this vicinity has not, at this writing, been fully explored. A party of Russian officers made the attempt a number of years ago, and none returned to tell the tale.

Not the least interesting of the world's glaciers are those of Greenland, one of the great unknown lands of the earth. The area of Greenland is estimated at 500,000 square miles, and the whole of this broad expanse, except a narrow border at the southern end, is one vast sheet of moving ice, pushing onward toward the sea. Nordenskiold, the great Arctic explorer, believed that a portion of the interior of

Greenland was free from ice and might be inhabited, and in 1883 made the attempt to penetrate the mystery. He ventured for a distance of one hundred and fifty miles, at about five thousand feet above sea-level; from here he sent two Eskimo on a kind of ice-shoe, known as a *skidor*. These Indians went about seventy miles further, to an altitude of about six thousand feet. They found the ice rising in terraces and seemingly boundless beyond, and as further penetration was impossible, the explorer abandoned his project, and Greenland remains, so far as Science has demonstrated to the contrary, one great continent of shifting, rushing ice.

It may be said that there is scarcely a section of the known world that is free from living, or the evidence of pre-existing glaciers. There are known glaciers to-day on the island of Spitzbergen, in Norway and Sweden, in central Europe, in Southern Asia, in Patagonia, in Chili and New Zealand, and all over North America are scattered the plain and unmistakable evidences of glacial action. There are over four hundred identified glaciers in the Alps, between Mt. Blanc and the Tyrol, covering an area of 1,400 square miles and in places of a thickness of six hundred feet. The line of perpetual snow in the Alps is seven thousand five hundred feet above sea-level, and the glaciers extend as low down as four thousand feet. According to data collected by various scientists, these ice bodies have enlarged and diminished at various periods and still continue to thus expand and contract. The Scandinavian glacier snow-fields cover an area of five thousand square miles. From the snow plateau of Justedal alone—which covers an area of five hundred and eighty

square miles—there descends twenty-four glaciers toward the North German Sea.

The great North American ice-sheet of the glacial era would seem from the deductions of science to have had an independent movement in various portions of the continent, and an interesting evidence of this is quoted in the drift region of southwestern Wisconsin and parts of Illinois, Iowa and Minnesota, which must have remained an island while all around it was ice. All the evidences go to show that this particular area escaped the attrition that was going on all around it by the pressure and movement of ponderous bodies of ice.

In this connection a few words about "Moraines" may be pertinent. A "Moraine," as defined geologically, is: "A line of blocks and gravel extending along the sides of separate glaciers formed by the union of one or more separate ones." As showing that the depressions of the Sierra Nevada—those depressions that make channels in a westerly direction, whether they consist of a gulch, a ravine, a canyon, a river-course or a dead and extinct river, are moraines; simple observation is all that is necessary, and, this being granted, it must follow that at one time the Sierra Nevada Range was a great bed of glaciers, and that it is the attrition of these great glacial forces that has stored the sides of these courses with gravel and cobbles that have been ground from great boulders, which, in their time, had been detached in masses, smaller or larger, from deep-set rocks, from a period anterior to that of the Glacial. Every prospector who ever swung a poll-pick or delved for gold in the ravines, gulches, bars, flats or streams of California, recognizes the

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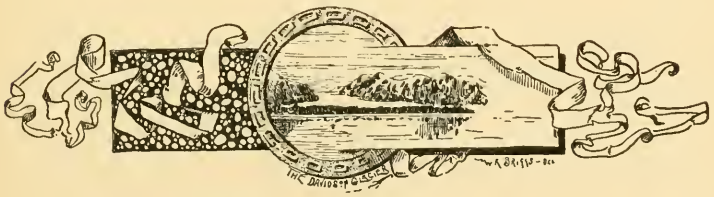
moraine as the deposition from some powerful force moving irresistibly from above, but did not recognize it by the name of moraine, because that was too scientific for the most of them. In the main they attributed the evident attrition to the action of water from the melting snows at the summits; but, even to the amateur geologist, and, in fact, to any intelligent student of the subject, there is a difference in the character of the detritus which comes down from the action of the water-shed, and the material which forms the moraine. The one shows either a polished surface in pieces in size from a cobble upwards, while the smaller particles show a distinct polishing plainly attributable to the action of water, and the smallest are merely disintegrations caused by washing. The material of the moraine in most cases shows a striated surface as if subjected to a simultaneous pushing and grinding action, evidently the effect of the friction of solid or semi-solid matter, and the smaller or movable stones are ground and polished as smooth as glass. Terminal moraines clearly traced to glacial action are found all over the continent, as well as "kettle" moraines, the latter being most prominent in the State of Wisconsin. The Missouri River, that great channel from the mountains to the sea, shows a moraine plainly along its banks in its upper portions, and from this fact it was once thought that a distinct line of terminal moraine might be traced across the continent. Professors G. Frederick Wright and H. Carvill Lewis made the attempt to verify this theory in 1881, and began the survey in Pennsylvania, but, on crossing the Alleghanies and reaching the Mississippi Valley, continuity ceased and nothing was found but marginal

deposits somewhat evenly spread over the country, but ending in extremely attenuated borders, and the theory of a continuous ridge of glacial accumulations was abandoned and has not since been seriously asserted. It is on the south-east coast of Massachusetts that the true moraine of the glacier is most noticeable on the American continent, and the most easily traced. Prof. Wright holds that Nantucket, Tuckernuck, Chappaquiddick, Martha's Vineyard, No Man's Land and Block Island, on that coast, are but portions of a terminal moraine, whose back in places emerges from the water, appearing as islands. This authority cites many other instances on the Massachusetts coast of prominent places that are "made land," dumped as a moraine by the glacier's mammoth wheelbarrow. The same writer also disposes of the illusion that the Pilgrim Fathers landed upon a "rock-bound shore." He says that the supposed rock-bound coast is composed merely of "morainic accumulations of glacial margins," and that the three hundred and sixty lakes of Plymouth township are nothing else than a cluster of kettle holes caused by glacial action. The Professor destroys a good deal of Puritan tradition when he makes the rock-bound shore of Massachusetts nothing but an accumulation of sand and boulders, and incurs the danger of real New England wrath when he calls the Plymouth lakes nothing but kettle holes. But he is a clear observer, and has made glacial philosophy a close and earnest study.

As to this moraine theory, moraine lines are so plainly marked wherever glaciers exist, or are known or assumed to have existed, that the moraine simply stands as a proof of the pre-existence of glaciers,

great or small, as marked by the debris. That all over the world are these moraines marking the spots where glaciers now extinct once existed, makes the presence of great, living and visible glaciers and their attendant icebergs in Alaska and other portions of the west coast of North America, the more interesting from a geological and otherwise scientific standpoint, and, if we accept the theory—which has every semblance of reason—that the movement of the earth is constantly to the northward, at a rapid rate, considering the size of the planet, the time may come when even these great phenomena of Nature shall have been dissipated and their track only marked by the moraine which they themselves created. It does not follow from this that the present generation, if it wishes to see a real live glacier, must pack its valise and start for Alaska at once; but delays are dangerous, and the person who waits a few thousand years before visiting Alaska will be very liable to miss one of the grandest, most interesting and thrilling natural sights ever vouchsafed to human vision.



CHAPTER V.

THE NATIVE RACES.

PRE-HISTORIC THEORIES.—ALASKA'S PROGRESS.—DIVISIONS OF THE NATIONS, TRIBES AND CLANS.—HYPERBOREAN GROUP.—THE ESKIMO OF THE NORTH.—CANNIBALISTIC KONIAGAS.—THE ALEUTS AND INTERMIXTURES OF THE ALEUTIAN CHAIN.—THE SAVAGE TINNEH.—THE FIERCE AND WAR-LIKE THLINKETS.—HABITS, CUSTOMS, SUPERSTITIONS AND MORALS OF THE TRIBES.

THEOLOGY has not, and science with its profound research and investigation certainly has not solved the mystery of how the world was peopled. The two principal hypotheses advanced as to the origin of mankind have found advocates in the thinking minds for ages. The first theory presents the idea of the descent of mankind from a single pair and is advocated by theologians and accepted by the vast majority of Christendom. Another division of this school are the dissenters from this fundamental idea and advocated by such scholars as Agassis and Gliddon who support the theory of the separate races with their peculiarities. Darwin and Huxley support the third hypothesis, which is based on the principal of evolution. There have risen, possibly from the three schools, but more

likely from the first—as they cannot grant the evolution or the separate creation hypotheses—theorizers in plenty who have not been backward in their speculations as the descent of the aborigines of the American continent. These savants, many of them, have found in these northern tribes a connecting link between the inhabitants of the New and the Old World. On this subject much energy has been expended, much good paper wasted, and we are left page upon page of dubious analogies and volumes of cosmographical, etnological and etymological hypotheses. It is not impossible, nor yet improbable, that at some time people from Asia might have reached these shores in numbers, but I can find no authentic trace of them, and I can advance no theory of a pre-historic arrival.

With this brief introduction, and without further touching upon the origin of the races, I will take up the discussion of this Hyperborean group whose southern limits some authorities accept as the fifty-fifth parallel, while others include under this head the Indians of the Columbia River. The scope of this chapter is too limited to permit taking up in detail the various nations of Alaska, or of treating separately the various tribes into which they are divided; but to the Thlinkets, they being the people with whom tourists come in contact, I will give particular attention, presenting to the reader the most salient points wherein they differ from the more northern nations. As every ethnologist segregates these people according to his own idea, I adopt the plan which is better suited to the purposes of this work. Accordingly, the first of the group is the Eskimo in the north, who inhabits the shores of the

Arctic Ocean; the Koniagas inhabiting the extreme western coast, bordering on the Behring Sea and the Pacific Ocean and the Koniagan Islands; the Aleuts who people the Aleutian Archipelago; the tribes of the Tinneh who occupy the vast territory between the land of the Eskimos and that of the Thlinkets from the Hudson Bay west of the Koniagas country; and fifth, the Thlinkets who inhabit the coast and islands from the Copper River south.

In the Thlinkets we find a greater development, physically and mentally, than exists among the inhabitants of more northern sections. While the nobler qualities of the man are brought to the surface, the savage nature is intensified, and while cruelty and stoicism are reduced to a science that would rival the Indians of the plains, industry, some idea of modesty and conjugal fidelity appear among these people, and they are spoken of as brave, shewd, intelligent and possessing a respect for women and the aged not to be found elsewhere among savage races. They are a more warlike nation than their northern neighbors. They employ the usual Indian cunning and trickery in their warfare, and their male prisoners were killed by torture and the women doomed to slavery. This system is, however, almost entirely done away with. The Thlinkets were long antagonistic to the Russians, and the fiercest of the nation, the Chilkat and Chilkoot tribes, have, until late years, been hostile to all whites. Other marked characteristics of the Thlinkets is their ingenuity in the manufacture of domestic utensils and implements of warfare and working in metals in which they excel. They have a love for art and music, and exhibit some skill in the former in their carving and metal

AUK INDIANS, NEAR JUNEAU.

From photograph 7850, by PARTRIDGE, Portland, Ore.

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work. Not so in their personal adornment however, for, in common with other Alaskans, they are given to the barbaric practice of embellishing nature and far surpass their neighbors in their models of hideous beauty. The ears and nose of the men are pierced, and from them are hung rings and devices in shell, bone, wood and copper, and the head is variegated with greasy colors. Tattoeing is practiced by drawing a colored thread under the skin. The women also pierce the nose and ears, introducing such weights as to draw the features out of place. But the acme of Thlinket loveliness is attained in the lip-button. To insert this, the lip is cut, at an early age, in a slit parallel with the mouth and about half way between it and the chin; a wire or stick is inserted which is gradually enlarged, thus keeping a constant strain upon the aperture which increases in size and assumes the appearance of a second mouth.

Upon the maiden arriving at maturity a large wooden button, rather the shape of the bowl of a spoon, is inserted, and as the button is enlarged with age, in proportion is the dignity and importance of the matron augmented. Writers give the dimensions of the button variously at from one to three inches in length and a quarter of an inch in width. I saw some very large ones, and I think this diversity is accounted for by the various sizes worn according to the age of the wearer; but generally they were about the size of a large button.

The Thlinket marriage is somewhat peculiar for having more show of form than is deemed essential with most Hyperboreans. Upon presenting what valuables he can afford to the maiden's parents, the young brave arrives, his friends gather, and in feast-

ing and dancing rejoice for him—not with him, as he and his affianced take no part in this rite. To insure felicity in after life, a four days' fast is entered upon and continued with but a single break after the second day; in four weeks the couple come together as man and wife. Pologamy is common, but as the woman brings no material profit to the common household fund, and as tribal taxes are levied in proportion to the number of wives, a plurality of wives comes high and is a luxury to be indulged in only by the wealthy. The natives of this Sitkan region formerly burned their dead and the ashes were gathered into a basket and swung between two poles near the water. The personal belongings of the deceased were burned with him, together with such things as were deemed needful for his comfort in the future state; but in the present condition of civilization the dead are generally accorded a Christian burial.

A more distinct caste or clanship is found among them than exists in other Hyperborean nations. There exist individuals of long pedigree who are noted for their hereditary wealth and their prowess, and from these their chiefs are chosen; the choice generally being elective, but in some cases the chieftainship has been inherited for many generations. The authority of these chiefs is nominal, but they possess much influence. As is general with the Hyperboreans, each family has its own regulations and the head of the house is the supreme authority thereof, while the chief can do nothing without the consent of the several families of the hamlet over which he presides. Hunting and fishing grounds are staked out and handed from generation to gener-

ation, while they have a custom of renting their lands at a percentage of the products. The boundaries are zealously guarded, and poaching within the domains of another receives the severest penalty visited upon theft. These observations on the government of the Thlinkets will hold good, in the main, for the Hyperborean group. Nowhere is the authority of the chiefs arbitrary, but, as in every community, there is a ruling spirit, so the Indian, by a show of superior ability, a display of uncommon wisdom, can gain much influence over his less gifted brethren. It is from such that their chiefs are chosen, and in this particular they are very democratic.

The Thlinkets spin and make blankets from the white wool of the goat, baskets and mats from grasses, and pipes and other utensils from clay. In trade they are cunning and resort to many sharp practices to dispense with their wares, while every article they receive in return undergoes the closest scrutiny. They are thievish and given to lying, and, while theft among their own people has met with punishment by death, the wrong, when perpetrated against a member of another clan, is readily attoned for by the payment of a few blankets or furs, and to steal from the whites is a sin only in the discovery as reflecting upon their skill. The Thlinket is prone to drunkenness, and they had a fermented beverage of their own before the advent of the trader and his whisky. The northern tribes, on the contrary, are a sober people—with the exception, perhaps, of the Aleuts, who have been long under the influence of the trader.

Cleanliness is not a virtue with the northern family, and the Thlinket is no exception to the rule.

They seldom apply water to the person, and for some emotion, frequently smear themselves with grease and rub it off with a bark brush. They also employ a steam or sweat bath by closing their houses and pouring water on hot stones, and rolling themselves in their blankets to enjoy the natural results. About their hamlets they are even less abstersive, having no conception of sanitary laws.

The chief characteristics and peculiarities, mental and physical, of a savage people are formed by the advantages or disadvantages under which they labor for their mere existence, and the conditions of their being are ordered according to their needs in their struggle for life. Thus the Thlinket village is situated in a sheltered place on the coast, handy to land the canoes and near the best halibut and salmon runs, as these fish form their staple food; the Eskimo hamlet is convenient to some cove of sufficient depth to float a whale, which is towed in by the hunters, and the Tinneh, being essentially an inland people, gather their huts together in the best game regions and sometimes build them as strong stockades. And so with each; according to his needs and as nature has placed him, man conforms.

Then, their occupations and the various climates show in the man. The Alaskan Eskimo is of the same stock as those of Greenland and of which latter ethnologists agree upon as being of American continental origin. They are of medium height, muscular and active, short in the legs and with small feet and hands, broad face, high cheek bones, light complexion and teeth nearly worn to stumps by the practice of chewing hides in tanning. The Koniagas inhabit a wild, rugged territory, and tradition records

an early immigration from the north and a blending with the south whereby the two characters underwent a marked change. They are a hardy people who once numbered many thousand, but were sadly depopulated by the cruel severity of Russian rule. In this respect the Aleuts too have greatly suffered. Reduced by the invaders to slavery and subjected to the most barbarous treatment, their numbers soon decreased, and long contact and intermixtures with the Russians have effaced many originalities. They are sluggish by nature, but strong of body and of great endurance, with strong passions that lie dormant, but when aroused render them capable of any extreme. As I have said, the Tinneh are essentially an inland people. They spread over the great area of central Alaska, for the most part unknown, and extend into British territory in the east. Many petty tribes go to make up a nation of tall, brawny and sturdy hunters, who are described as being an inferior race—at least lacking in appearance. The Tinneh character is variously described, but the best testimony goes to give them a reputation for probity and sobriety while calling them vagrant and indolent. When more southern climes and more congenial surroundings are reached, a finer race of man is found, and greater beauty in the physical type. This is exemplified in the Thlinkets. They are more graceful in their proportions than the men of the north, but as the Thlinket seldom moves, save in his canoe, his upper limbs and body are overly developed in proportion to his lower extremities.

I have thus outlined the marked characteristics of the races of the north. Look now at some of the

manners and customs prevailing more or less throughout the class or group.

The Hyperborean palate is anything but delicate, though taste may be a degree more refined among the Thlinkets. They will eat absolutely anything digestible, while cooking is not a necessity with them, nor am I positive that it is deemed a luxury. They are less nomadic than the Indians of the plains, living in hamlets the greater part of the time and migrating at such times as is, in their several regions, most propitious, in quest of winter stores. At such times they construct temporary abodes on or near their fields of industry. Their houses are very similarly constructed, the primary idea being one large room below the surface of the ground and roofed over from a ridge-pole with hides or bark, leaving in the center a large smoke hole. Even the Eskimos erect their houses so, using ice and snow for a covering. Many houses have a store-room, and among some people, several nooks are constructed for separate sleeping apartments. The entrance to the house is through underground passages, variously protected against the inclemency of the weather and fresh air, so that the only ventilation of the room is through the smoke-hole, and from three to six families call this home.

The superficial marriage ceremonies of the Hyperreans, too shallow to be so called, consist in some parts of taking a wife at pleasure—to be dispensed with as readily—while in other sections the father must be compensated, more or less liberally. Polygamy is universal with them, the number of a man's wives being limited only by his ability to support them. Among some of the tribes the women are

entitled to more than one husband. Modesty is said to exist in a measure among the Thlinkets, but certainly nowhere in the north has it reached the par-excellence of the civilized conception of the term. Nor is morality a quality that carries with it much weight, while virtue is variously "praised but is not cherished." The Hyperborean vice is gambling. A lesson, early instilled in the young mind, is the doctrine of the inferiority of women, and the young brave seldom deviates from the course so early mapped out for him.

In the finish of their barbaric stoicism, they approach the American Indian proper. To toughen themselves the better to withstand the rigidity of the climate, the young man will emerge from his vapor bath, nude, and plunge into the nearest stream, oftentimes having to break the ice, and then, after rolling in the snow, return to his hut, laboring under the impression that he has had a nice time. Mothers subject their infants to this severe treatment with the same object in view. In their improvements upon nature they submit to many tortures in tattooing and cutting the flesh, most of which is done while they are very young, and, where shamanism thrives most, cruelty is reduced to its most exquisite art.

Superstitious the Alaskan aborigine can hardly be called. That is, he does not allow himself to be governed by the natural phenomenon, which in such a measure surrounds him, nor will he be swayed by the appearance of the weather, sun, moon or stars, but will fish, hunt or perform any duty he may be called upon to execute under any conditions whatsoever. The one phenomena productive of awe in these tawny sons of nature is the miracle of volcanic

action which he is so often called upon to witness, and of their several extinct craters there exist myths bearing upon the population of the world, and many others.

The northern Indians are extremely credulous, and are thus easily played upon by the scheming shaman. It is said that many of this gentry believe in themselves, which is easy of credence when it is remembered how given human nature is to come to an absolute faith in its own fabrications, while others—undoubtedly those new to the business—know that they are young frauds. In keeping his hold upon less enlightened brethren, the shaman performs many feats of jugglery in which he is very shrewd and accomplishes many truly wonderful miracles, such as burning at the stake to appear later among his good people, and short trips to the moon to replenish the forests with game and the streams with the finny tribes in times of scarcity.

Outside of Sitka and other mission towns, the dead are not put underground, but where they are not cremated, the remains are raised upon poles or swung from the trees. Some tribes of the Tinneh let their dead remain where they fall to be devoured by wild beasts, while others of the same nation, place the bodies in a low stone enclosure where they come to the same end. With the tribes who burn their dead, savage cruelty outdoes itself. When the man dies his wives must gather about his pyre to attest their devotion to the deceased. They must keep alive the fire, meanwhile casting themselves upon the body, uttering cries and lamentations, which I imagine to be sincere, and they then come out of the ordeal more dead than alive. The shaman is pre-

INDIAN FUNERAL AT FORT WRANGELL.

From photograph by PARTRIDGE, Portland, Ore.

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served upon his death in a wooden sarcophagus, and the body of a slave is thrown into the water anywhere. A custom which I believe to be nearly obsolete was the murder of a slave upon the master's grave that he might make his entree into the unknown state worthily attended.

The Indian's conception of the hereafter, where any belief or thought is harbored, is based upon his surroundings in this sphere, and whose, indeed, is not? To a greater or less degree the peoples of the world conceive of their surroundings in the world to come in the light of greatly exaggerated grandeurs of the things of this world as they know them, and according to their various natures judge the happiness of their future existence. So the Indian builds in his imagination, a mighty forest stored with an endless supply of game, in the pursuit of which is attained the height of savage happiness, and being a lazy mortal, he looks forward to a time of perfect rest and plenty of servants, if his relations are thoughtful enough to forward them, in the cycle of immortality.

Some of the tribes of Alaska believe in the future punishment of the wicked and imagine two paths leading to eternity, both watery, but over one of which the brave's canoe glides on a smooth flowing current, while through the other passage the journey is made in darkness amongst rocks, whirlpools and perils indescribable. Where this latter route ends I do not know. What constitutes wickedness among a people who have no moral laws and no deity to whom to render an account or to limit their desires, absolutely no ruling or guiding power, I fail to conceive.

A mode of burial quite peculiar to now existing forms seems to have been, in the times of its practice, at an almost pre-historic date, confined exclusively to the people of the Aleutian chain. The practice went into disuse with the arrival of the Russians, from which we deduct that this was one of the many habits revolutionized in these islands by the Russian advent.

The custom of embalming and cave burial was obsolete beyond the recollection of the oldest inhabitant, and it is upon the evidences of the caves and their relics—the sole existing records of those ages—that history and science have to rely for the unraveling of the mysteries. Numerous legends attach to these caves and the once mortal remains therein contained, but they mostly partake of the wierd, and are little to be depended upon. The deductions that have been arrived at as to methods and customs are as follows:

Wrapped in their best clothes and mats, and without weapons or other goods, contrary to the usual custom, the poor were placed in a sheltered place and, sometimes, heaped with stones and driftwood. In all cases a mask without eyes was placed over the face, that the dead might not look upon the spirits he was to meet in the mystic spheres.

The remains of wealthy or distinguished personages were treated with more ceremony. The bodies were carefully prepared and placed in running water for some time to remove the fatty matter. The knees were drawn close to the chest, and the bones of the limbs ofttimes fractured that they might be gotten into a more compact form. The remains were carefully dried, wrapped in furs and bound with seal

skin, that the whole might be water tight, and this ponderous bundle was suspended in a cave or some rocky shelter.

Numerous burial caves have been discovered or reported, and many explored and rifled. In 1874, the Alaska Commercial Company explored the largest known of these caves, and bringing away the contents donated the relics to the Smithsonian Institute and to the California Academy of Sciences. The picture herewith presented is from a photograph of a mummy in the Company's museum. The cave thus explored is situated in the Island of Kagamil, one of the group known as the Islands of the Four Craters. Besides the incased remains of eight adults and three infants, there were found in this cave numerous weapons, implements and utensils of all sorts, beads and furs and the remains of canoes.

By Prof. Dall's computation, the age of these relics would now be one hundred and thirty-four years. Writing in 1876, he says:

"I was informed in 1871, by several of the more intelligent natives, that they fixed the date of the earliest interment in the following manner: It occurred in the autumn or winter. During the following spring the first Russians that were ever seen by the natives of the Four Craters, arrived in the vicinity. These may have been Trapesnikoff's party, which left Kamchatka in 1758, but did not reach Umnak until 1760; or they may have been that of the infamous Pushkareff; or possibly of Maxim Lazeroff; but, in any case, they can hardly have been the expedition of Behring. In 1757 Ivan Nikiferoff sailed as far east as Umnak, being the first Russian to do so, except those of Behring's expedition, who did not

land on any of the Andreanoff group, though in 1741 they saw the shores of numerous indeterminate islands from a distance. The earliest date therefore, which we can assign to these remains would be 1756, making the oldest of them about one hundred and twenty years old."

Among the numerous traditions of the burial places is the following

LEGEND OF KAGAMIL.

On the island of Kagamil lived a distinguished toyon, Kat-haya-Koochak by name. He was a very small man but, being very strong and active, he was much respected and even feared by the natives of the adjacent region. Between the people of a neighboring island and Kat-haya-Koochak's clan, had existed a long-standing feud. But a bold young warrior, called Yakaga, had just risen to the chieftainship of these unfriendly islanders, and by the marriage of Yakaga with Kat-haya-Koochak's only daughter, the enmity between these people was laid aside.

Now the pride of old Kat-haya-Koochak was his son Zampa, a youth just coming into manhood, in whom the old chief saw promises of an able successor to himself. He built for his son a fine bidarka, and when it had been decked out as befitted the son of a mighty chief, the boy gained his father's permission to try the boat upon the open sea. After having enjoined him not to venture too far from shore, the father, from a pinnacle of rock, watched with admiration the bold young seaman as he set out in pursuit of a diving bird, shooting at it with his arrows. But soon the father became alarmed. Zampa did not hear his father shout to him to return, but, intent

MUMMY FROM KAGAMIL.

Photographed from original in possession of Louis Sloss & Co.

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on getting the duck, which dove under to rise again at some distance, the boy got further and further from the shore. Finally he discovered that, in the dusk, he could not distinguish the land from which he came. He made for the nearest shore and soon found himself in his brother-in-law's village. Yakaga was away, having gone to visit his wife, for according to the Aleut custom, the husband did not take his wife to his own island, but went often to visit her, but the boy was recognized as Yakaga's brother-in-law and made welcome by the hospitable islanders. After feasting and merry-making, and when the whole village was about to retire, in accordance with the Aleutian custom of hospitality, Zampa was given the companionship of Kitt-a-youx, the daughter of Yakaga's first chief, and without a doubt the belle of the village.

Next day Zampa showed no inclination to return home, nor yet the next, and it was rumored that he was enamored of the great chief's daughter. Such was the fact, for on the third day he made an offer for Kitt-a-youx' hand, and when his suit was rejected by the chief, Zampa left the barrabora in a towering rage. Now Kitt-a-youx favored this bold youth and they laid plans to steal away that night and seek the protection of Zampa's father, the mighty Kat-haya-Koochak. A dark November night came on and all went well. With Kitt-a-youx in his canoe, Zampa pulled a strong stroke for home. Suddenly he heard some one coming after him. Though he redoubled his exertions, his pursuer gained on him, and soon began to throw arrows at him. Kitt-a-youx urged him to his utmost, and he was straining every nerve when an arrow struck his paddle and he, losing his

balance, the canoe was overturned. Zampa's pursuer came up and taking the half dead girl into his boat, tried to right Zampa's canoe, but was unsuccessful and the boy was drowned. When the man dragged the body to the surface, he uttered a piercing shriek. He was no other than Yakaga, who, returning from his visit to his wife, had left his father-in-law in a state of fear for the safety of his son, and having seen a bidarka with a woman in the stern heading from his island, had started on the pursuit, which ended in the drowning of his brother-in-law. Yakaga wept over the boy, but fearing the anger of his father did not dare return with the body to the village, so he towed it with the overturned canoe to the shore and, leaving it in the kelp, returned with Kitt-a-youx to his own island.

Next day the body was found and wild was the lamentation of Kat-haya-Koochak for his son. He called together his clan that they might mourn after the manner of the Aleuts, and that they might bury his son with honor. Swift was the vengeance of the spirits visited upon him who caused Zampa's death, as we shall see. At the proper time and with much lamentation and song the body was borne to the burial place. Among the mourners was Zampa's sister, Yakaga's wife, and she was with child. Across the path of the procession lay a stone which all had to pass. The ground was slippery with melting snow and in carelessly stepping on the stone, the sister slipped and was thrown on her back, being prematurely delivered and dying soon after. Kat-haya-Koochak was distracted. He had come to bury one, and instead had three to bury. The procession returned to his barrabora and he gave

orders for the funeral of his daughter and grandson, but was perplexed as to where to dispose of them. Then he bethought him of the cave near the village, in which he stored his furs and other goods and gave orders that this should be converted into a mausoleum for the whole family, and there he had his dead placed, and with them he placed the little canoe, the paddles, arrows and many valuables. Then he gave orders that he should be placed there himself, and soon after the chief died of grief for his children and was placed in this cave as he had desired, with all his wealth, household goods and weapons. And this was the end of the distinguished chief Kat-haya-Koochak and his family, and the orgin of the great burial cave of Kagamil.

But our story is not done. Kitt-a-youx lived to mourn her betrothed. Cast off by her father and sold to a neighboring toyon, looked upon with little pity by her people, her life was miserable and all but slavery. But her husband seldom came near her, and for this she was thankful. Soon Zampa's child was born, and the young mother was comforted. Still her outward persecution was continued, or rather was increased, making life unbearable for the young girl. She saw but misery in life for herself and child, a girl, and took a resolve so common with the women of her time and condition; she would end the existence so miserable for her and her little one, and leave the rest to the Great Unknown Spirit. Stealing away in a canoe one night she headed for Kagamil. Putting forth her best exertion to be away from her own island, and chanting to the stars as she paddled, her canoe dragged in the sea-weed ere she realized how far she had journeyed. She rose

and looked about her. The morning was breaking and she knew where she was. With a relieved sigh she stooped, took up the sleeping child and bound it with her blanket to her breast. Then with one glance about her and calling to her Zampa, she sprang into the chilly water. The kelp gathered about her and she rose no more, while the canoe, released of its burden, drifted out to sea. Some days later the remains of mother and child were found washed up on the beach near where they picked up poor Zampa. The story of the ill-fated runaway had reached the Kagamil Islanders soon after the old chief's death, though no suspicion was attached to Yakaga. Therefore, when poor Kitt-a-youx' body was found it was tenderly cared for by the people, and with much ceremony placed in the mausoleum which the distinguished toyon, Kat-haya-Koochak had consecrated, and at last poor Katt-a-youx rested with her Zampa and her child.

And since these happenings has the island of Kagamil been deserted by the living.

CHAPTER VI.

TOTEMS AND SHAMANS.

THE TOTEM POLE; ITS EMBLEMATIC SIGNIFICANCE AND USE.—GROTESQUE CARVINGS AND BARBARIC CONCEPTIONS.—WONDERFUL CANOES.—GRAVES AND BURIAL CUSTOMS.—PRIMITIVE RELIGIONS.—WITCHCRAFT AMONG OTHER PEOPLES AND IN EARLY HISTORY.—THE POTLACH.—OFFERING OF THE CONSCIENCE-STRICKEN INDIANS.—A SYSTEM NOT FOUND AMONG MORE ENLIGHTENED PEOPLE.

THE Indians of Alaska are, as I have said, divided into five principal nations, which are segregated into tribes. These, in turn, are subdivided into families, each having a distinctive name, and each member being provided with a Totem. This Totem is a distinguishing badge representing the family, or, rather the caste, of its owner. These emblems consist of some representative of animal nature, such as a fish, a bird or a mammal, and are marked on the houses, the canoes and clothing, and are sometimes worn as personal ornaments. These totems give to the Indians a rather peculiar connection and carry some strange inhibitions. Members of the same tribe or tribal family may intermarry, but not members of the same badge. A bear may marry into the salmon

badge, but a bear may not marry a bear, a wolf a wolf, nor a crow a crow. Though the totem may appear merely an evidence of barbaric superstition, there nevertheless seems to be some method in the workings of the system. The prevention of intermarriage which it imposes necessarily keeps down clannishness and consequently averts tribal and family wars. The Indians of some parts of Oregon, Washington and British Columbia follow a method somewhat similar to the totem, each being provided with some emblem significant of caste in his tribe. It also serves as a sort of lucky charm, just as the negroes of the south carry amulets as a protection against evil spirits or to secure good fortune. While the Alaskan aborigines attach some significance of this nature to the totem, its chief use seems to be as a kind of genealogical record. At their burial places and in the front of the leading houses in each village are erected tall totem poles, on which are carved representations of birds, beasts and fishes. These constitute the "Family Bible" of the particular family. Strange to say, for a barbaric people, to whom money is but a comparatively recent revelation, these totem poles are sometimes very expensive, often reaching a cost as high as two thousand dollars, or an equivalent in blankets and furs. They will range from two to five feet in diameter and to one hundred feet in height. Small totemic carvings, in all sorts of grotesque forms, are made by the Indians and sold to travelers in the towns and at the various trading posts. Some of them are very unique and display considerable handicraft in a rude, artistic way, and some of the more elaborate command high prices from visiting whites. Human nature is

BEAR TOTEMS AT FORT WRANGELL.

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human nature the world over, from the native savage to the king upon his throne, and these untutored sons of Nature will barter that which, to them, is sacred for the glittering coin that rules the world from "Greenland's icy mountains to India's coral strand." The making and erection of totem poles is not frequent since the whites have increased in the country, as the enterprising white man has in many instances managed to secure them for museum purposes in the "States" or in Europe, but those that are still standing are religiously guarded and carefully preserved. Totems are also often carved on the walls of the houses. The natives of Alaska seem to be possessed of a passion for carving. They whittle and gouge figures and canoes out of every material the country affords that will take a tool. Bone, wood, horn and ivory of animals, fish-bone and sinew and even skins of animals, are formed into crude figures of everything in and out of nature such as they can see in their country, or that comes within the scope of Indian imagination, from a grasshopper to a bear, from a minnow to a whale, a sea-gull to an eagle, or a swaddled infant to an exaggerated idol, that would scare into devotedness the most hardened sinner on running across it unawares.

Remarkable, in connection with their carving, is the construction of the Indian's canoe. It is called a "dug-out," being hewn and shaped from a single log or trunk of a tree. After the canoe is excavated and outwardly formed, the shell is made pliable by steam, which is generated by filling the excavation with water and then throwing into the water red hot stones. Having produced pliability, and the

shell having been shaped to the lines required by the savage naval architect, it is left to season for a time. All canoes are built upon the same model, in graceful, clipper lines, a carved stern and sharp prow which projects gracefully out over the water, the latter usually surmounted with the family badge—withall wonderful and beautiful specimens of savage naval architecture. A common canoe is fifty feet long, and one much longer is not a rarity, accommodating from ten to twenty paddles a side. A Haidah canoe exhibited at the Centennial was eighty feet long and five feet deep, constructed without a joint, and propelled, when sculled by her full complement, by forty paddles a side.

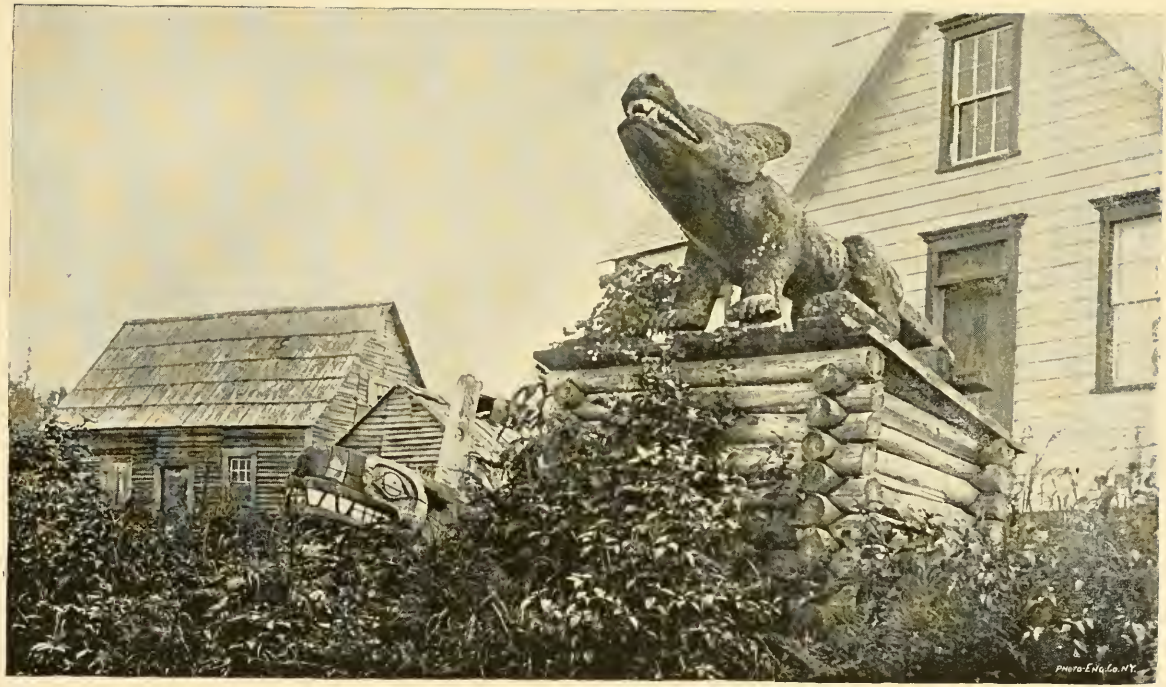
The almost invariable custom of the Indians in putting away their dead is to make the tomb close to a river bank. Among some the body is bent so that the knees will touch the breast, and is put in a rough box of hewn boards which may be covered with gaudy paintings or carvings in totemic designs, or may be left plain. This box is placed upon four supports, of a height varying with different people, which will then be enclosed with a rough fence, or over which will be built a substantial hut. Over these tombs is planted a pole from which streams a rag, and near by is another pole, of about twenty-five feet in height, to which is attached a totem, carved in the shape of some animal-object, representative of that particular family or sub-clan to which the deceased belonged. The fence posts and grave coverings are also adorned with these grotesque emblems. Some of the Christianized Indians build crude houses over the graves and surmount them with the Greek cross; others more civilized, enclose the graves in neat picket or

latticed fences, but in each and every case the totem is present.

If the aborigines of Alaska have any religion at all it can only be defined under the name of "Shamanism," and as a matter of fact, Shamanism can scarcely be properly defined as a religion. Of course I do not in this connection refer to the Indians who have been converted to Christianity by missionary and other white influences. A few of these are devotees in Christianity; many have a sort of remote idea of what a living Deity means, and others are Christians only because they have been baptized by a Russian priest. All, however, have either a lingering or a positive belief in Shamanism. This term is not in itself Alaskan. It represents a sort of Fetchism common in western Asia, in India, Siberia and Alaska. The Shamanist is a believer in witchcraft, and the shaman, the high priest of witchcraft, is a witch, who is supposed to be in communication with unseen powers, which enables him either by intercession or denunciation to settle the fate of a friend or a foe, to regulate his or her success or failure in all undertakings, and to heal the sick or cause death by certain incantations.

By various modes the shaman is selected to fulfill his office, but in no case is he an ordinary personage. With some tribes a child with any abnormity, from a cast in the eye to a humpback, is consecrated to the office. Among others, a young man has a dream which he thinks, or makes his people think, has come to pass, and enters upon a long fast from which he emerges a full-fledged shaman. The Thlinkets once had a much longer and more laborious rite of installing a shaman, but with them Shamanism is almost of

the past. From what I could learn from questioning numerous natives, this Shamanism is a sort of spiritualistic belief, with the shaman as the medium. Those who are the strictest adherents to the superstition are very reticent in giving information to the whites as to the origin, rites and mysteries of the belief, if belief it can be called, while many of the younger element, having partly drawn away from it, ridicule and defy the shamans, and are ignorant of the history and rites of Shamanism. The shaman rules with an iron hand and exacts the most exhorbitant tribute from his devotees, who are comprised mostly of the aged, sick and unfortunate In many senses the shaman occupies a similar position toward his adherents as that of the "medicine-man" of the wild Indian tribes of other portions of the American continent. His methods of healing are, like the medicine-man's, by incantation; he has a rough knowledge of a few medicinal herbs and roots; he contorts himself into a sort of epilepsy when invoking the spirits and works upon the superstitious fears of his people. The medicine-man, unlike the shaman, however, exacts no fee. If he cure the patient, he is "heap big medicine"; if the patient die, the doctor is often stoned to death; then some other unfortunate is selected to take his place. Generally some very old man is selected as the medicine-man, some poor wretch broken down by age and disease; and I have been answered by the Indians, when I asked why they selected their old and decrepit men for their medicine-men, that it was because they were too old to be good for anything else, and that, as they were a burden on the tribe, if they did not soon die in natural course, the time was



INDIAN GRAVES AT FORT WRANGELL. THE WOLF AND WHALE

From photograph No. 7876, by PARTRIDGE, Portland, Ore.

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not long off when they would incur the usual penalty by losing a patient.

In Alaska Shamanism, all birds, beasts and fishes are supposed to be inhabited by either good or evil spirits, with whom only the shaman is on speaking terms, and all elemental disturbances are supposed to be manifestations of the good will or wrath of the spirits, only to be interpreted by the shaman, for a fee. Each tribe and family has its own peculiar set of spiritual legends and its own set of bugaboos, of whom the shaman is the embassador. Where the shaman has devout followers, he is the most overbearing and exacting, frequently, by threats of spiritualistic vengeance, demanding and receiving everything of value possessed by his devotee. Many of the natives who hover about the trading posts have acquired a sort of notion as to what Christianity means, but have not abandoned their fetishistic ideas, nor have they gained much in morality by the teachings inculcated through contact with the whites. Shamanism is confined more particularly to the Indians, who look upon the Innuits, Eskimo and Aleuts as sorcerers, and yet these latter tribes also believe in sorcery and witchcraft and have their totems and shamans the same as the Indians, only in different forms, while the principle is the same. The Indian name for sorcerer is *Uskeemi*, and the Innuit name for Shaman temples, *Kaguskeemi*, and it is from the root of these words that *Eskimo* comes. Among the Innuits, the totem system differs from the other systems in Alaska. A boy when arrived at puberty selects some living object as his patron, and the spirit which inhabits that particular bird, fish or beast is his guardian through life. If bad

luck pursues him, he has the right of secession from his guardian and can choose another, and if he feels like it can eat his former patron; that is, if his totem is a duck, he may eat duck. This is not permissible in the totemic code of other tribes. Deer, seal, salmon and badger are regarded by all with special veneration, as they form the food supply, but while these animals are worshipped, it is not forbidden to eat them.

The philology of the word "Shaman" is something difficult to trace, but its intent and the word itself, runs through a certain theology in both civilized and barbaric literature for ages. Persia had its shamans and its believers in Shamanism, and even the Parsees with their beautiful and, in its day, enlightened theology, were largely shamanistic. Shamanism simply means witchcraft, and from the day when Shaman Satan tempted Eve in the Garden up to the highest civilization of to-day, there have been, and still are, shamans and Shamanites. The newspapers of every large city contain advertisements by fortune-tellers—otherwise witches—and many an intelligent, refined and educated man or woman consults these oracles, though they would hardly acknowledge their superstition to themselves. The Roman Empire, at the very height of its civilization and culture, had its Augurs, who were merely shamans. Joseph, who engineered a grain deal when in captivity in Egypt, and dreamed of the seven lean kine and the seven fat kine, was a shaman; and King David was a Shamanite. Moses, when he led the children of Israel out of captivity and into the wilderness, was a shaman when he smote the rock and drew forth water; Aaron was a shaman when,

while Moses was prospecting the summit of Mt. Sinai, he induced the ladies of the excursion to make a potlach of their jewelry to form a golden calf for all to worship. It is not necessary to multiply instances of a belief in witchcraft and witches. Even among the Pilgrim Fathers and the earliest settlers of New England—rugged, sturdy, brainy, and worshippers of the Christian God, sincere, honest and pious—Shamanism prevailed, and to-day there are millions of intelligent people who sincerely believe that Christ drove the devil out of the swine, and accept the story literally. When we have these numerous examples among an enlightened people, dating from the dawn of civilization to our own time; when the Bible records sacrifices made on the altar of the Diety, and which are even carried out in form if not in effect, to-day by various sects of civilized religion, who shall ridicule the Innuit, the Aleut, the Eskimo, the native races of all climes on which civilization has not shed its light, for being Shamanites? The very forces of Nature are something to inspire awe, not only in the untutored, but in the tutored mind; and the foundation for this is the mystery surrounding those forces, especially to those whose only communication with Nature is, not in book knowledge, science or philosophy, but in the mountain and vale, the thunders and lightnings, the sun, moon, stars, sky, flood, storm, glacier, or other natural powers of phenomena.

The native Alaskans do not stand alone among the native races of the American continent as Shamanites. There never was a tribe or sub-tribe of Indians on this continent that did not have its shaman, or "medicine-man." To a great extent,

the word medicine-man is a misnomer; for, in many tribes of Indians the functionary so-called is not looked upon as a physian, but only as an incantor. The "Diggers" of California at certain seasons of the year go down on all fours and eat vegetation as medicine, and the only function of the "medicine-man" in case of the sickness of a member of the tribe is to frighten off evil spirits by incantation. The same rule applies among the Piutes, Shoshones, Washoes and Goshutes of Nevada, and, in fact, among all the Indian tribes of the entire country from the Rocky Mountains to the Pacific Ocean. It is civilization that has made the real medicine-man among the aborigines, and it is civilization that has put upon them the diseases which have made drugs and doctors necessary to them. When once an Indian begins to learn that a white man is a doctor, —"heap big medicine"—he becomes a hypochondriac and the slighest twinge or ache is to him a disease requiring medical treatment, and he is the more ready for this because it is seldom that a reputable physician charges an Indian for advice or treatment, and, if there is one characteristic in an Indian that is predominant, it is the laudable desire to get something for nothing, from a dose of cathartic pills to a pair of worn-out pantaloons. A friend of the author once related to him an anecdote about an Indian who, having some slight ailment, applied at the camp of some white men for "heap medicine." One of the party, with more cruelty than brains, gave him a dose of a dozen purgative pills. The pills were sugar-coated, and, as all Indians like sweets, the victim swallowed them with avidity, and went to his wickiup. The man's companions rebuked

him for his miserable practical joke and predicted the death of the Indian. But he turned up next day, pale, sad and attenuated and asked for another dose.

In this connection a reference to the potlach seems to me to be pertinent, as it is a custom common in various forms among all the Indian tribes of the continent, but particularly among the natives of the northwest coast, comprising Oregon, Washington, Alaska and British Columbia and extending as far interior as Idaho and Montana, and among all the Coast Indians, the same word is used. It is believed to be of Chinook origin. "Potlach," as interpreted does not mean a gift in the ordinary sense, as a Christmas gift, a birthday gift, a wedding gift or other present given in love, friendship, affection or compliment, as among civilized people. Among the native races it means a total surrender of all holdings and belongings as a sort of propitiary gift to appease evil spirits through the medium of a shaman or other agent of witchery. In Oregon, Washington, British Columbia and Alaska a native who has acquired a large share of this world's goods becomes at times stricken with a sort of ecstasy, when he feels it incumbent on himself to organize a sort of conscience fund on his own hook. He calls his neighbors together, has a big feast and distributes to his guests all his earthly belongings. In some instances, when the spasm is peculiarly acute, he strips himself of the last stitch of wearing apparel and recovers from his convulsion with the consciousness of a duty well performed. This potlach is only indulged in by the crude, untutored natives, and is not "catching" among civilized and cultivated peo-

ple, and there is no instance on record of any of the leading capitalists of America ever having held a potlach, though the records of the Conscience Fund at Washington do show that many Americans have potlached with the Government according to the extent of their misdoings, some with and some without legal interest.

CHAPTER VII.

EDUCATION IN ALASKA.

HISTORY OF EARLY EDUCATION UNDER THE RUSSIANS.—THE CHANGES AFTER THE PURCHASE OF ALASKA.—LONG NEGLECT.—PRESENT INADEQUACY OF THE SYSTEM.—WORK OF THE AGENT AND NEEDS OF THE SCHOOLS.—DUNCAN'S METLAKATLA MISSION; ITS PROSPERITY AND THRIFT.—PERSECUTION BY CHURCH AND STATE.—FINAL IMMIGRATION TO ALASKA.—WORK OF THE SECTARIAN MISSIONS.

THAT education is the fundamental principle of republicanism, and the main stay of our American Institutions, is an undisputed fact. If education is a necessity, in the midst of our civilization whose principles are by nature inculcated in more enlightened minds—the inheritance of generations—what must be the needs of our aboriginal surroundings—darkened by ages of superstition—to raise them to that much mooted height of civilization.

When Russian America became United States territory, to the question as to what would become of the schools, General Lovell H. Rousseau, U. S. Commissioner in the transfer, is said to have replied: "America is far ahead of Russia in that

respect, and that ample provision would be made for them." He was right in part, while his promise has been fulfilled but in a measure.

A glimpse at the past and present of the schools of Alaska will suffice. As early as 1775 Governor Schlikoff established a school at the capital of Russian America, then situated on Kadiak Island. This school, in 1803, had thirty pupils studying arithmetic, navigation and four mechanical trades. In 1805 Count Nikolai Resanoff at the same place organized a school which he called the "House of Benevolence of the Empress Maria." The Greek religion, the Russian language and arithmetic only were taught here. In 1803 a school was opened in Sitka which experienced many vicissitudes until it passed into the hands of a naval officer in 1820. In 1833 this school saw another change for the better, when a creol, Etolin by name, chief director of the Fur Company and Governor of the Colony, took it in charge.

A school was established for boys and girls at Oonalaska in 1825 which maintained its efficiency to the date of the transfer. Another school was opened here for children of the employees of the Fur Company. These schools, I believe, or a successor to them, with all their traditions, thrive under the control of the Greek Church to-day. The Russian language and the Greek religion are taught and their holidays and fetes observed.

Dr. Sheldon Jackson, General Agent of Education for the Territory, in the report of his visit to the Aleutian Islands, tells us that he met at Oonalaska: "American citizens who have never heard a prayer for the President of the United States, nor of the

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SITKA, FROM BARANOF CASTLE.

From photograph 13, by WINTER PHOTO CO., Eugene, Ore.

Fourth of July, or the name of the capital of the Nation, but have been taught to pray for the Emperor of Russia, to celebrate his birthday and commemorate the victories of Ancient Greece." A severe commentary that requires no particular emphasis.

There was another of the Fur Company's schools for boys situated at Sitka at this time, and in 1831 one was established for girls. In 1841, a theological seminary was established in Sitka.

In these schools, where they went beyond the Russian language and the Greek religion, they taught reading, writing and arithmetic and different industries for boys and girls, and it is noticeable that they often sent students to Russia for further advantages. In 1859, however, we find the schools at Sitka broadening their field of usefulness and introducing the Slavonian and English languages, history, geography, book-keeping, geometry, trigonometry, navigation and astronomy.

At the time Russian America changed hands there were five schools supported by the Russian Government in Sitka, and others outside, besides many conducted by priests and under the control of the Greek Church. When the change came, the Russian instructors naturally stepped out. Some of the ecclesiastics still continue their schools and some of the American Missionary Societies have made attempts.

After years of neglect, in March, 1885, the Secretary of the Interior made over the care of the education of the Alaskans to the Bureau of Education and an agent was appointed, who immediately set to work. Among innumerable disadvantages under which he had to labor, probably the greatest were

the delays of Congress in making appropriations for this important work, and when the bill was finally passed, the inadequacy of the amount, the severity of the climate, their poor quarters, the distance from home and between his schools and having to teach a new language, were circumstances that helped only to impede progress.

There were two schools in Sitka, two, I believe, at Wrangell and one each at Juneau, Hoonah, Killisnoo and Jackson which were continued. Then in 1885–86, schools were established at Unga, in the Shumagin Islands, St. Paul, Kadiak, Afognak Islands, Klawack, Prince of Wales Island and Loring, the latter of which was moved to Fort Tongas. These schools were but poorly provided for, especially in the way of accommodations, and none of their wretched quarters were owned by the Government. This is the situation to-day.

Dr. Jackson, Prof. Kelly and the corps of teachers whom we met, cannot be too highly commended for their persistent efforts in this uphill fight. They can exhibit as the result of their labors, children, neat in appearance, who can read and write, and many of whom are acquainted with the rudiments of arithmetic. In the schools and missions many of the pupils sing and perform upon some musical instrument, and the Metlakatlans have a well-trained band.

Industrial exercises have been introduced gradually into the schools and the people, coming under the influence of the spirit of civilization, are one by one giving up their old mode of life, and Dr. Jackson advocates for the young men of Alaska, training in cutting and rafting logs, the running of saw-mills,

coopering, furniture-making and all sorts of wood-working.

I have treated of the Hyperborean characters and shown many points wherein they differed from the Indians of the lower latitudes. In many respects I think his customs and tribal relations more conducive to advancement and the man more apt to learn. In this I may be mistaken; however I am not prepared to say that the liberal educational advantages sought for him will not apply as advantageously to the American Indian.

The Government owes its Indians preparation for an intelligent citizenship, if for no other motive than its own protection and its glory. And surely the properly educated Indian will be as valuable an addition to our population and as worthy an element in our cosmopolitan nationality as the hordes that pour into Castle Garden. We have seen how little the Alaskans know of the flag under which they now live, and writers and travelers tell of the little respect paid to authority. In the development of character—a prime factor in education—the high principles of patriotism and fidelity to duty should be instilled in the young mind.

Fish packing, agriculture, mining and the development of other resources of the country will devolve upon these young men, as it will be some time before any but a shifting population will inhabit these regions. It is, therefore, plainly essential that this wealthy region of our territory should not be neglected.

The moral training of the people is necessary to the well being of the community, and must follow as a natural consequence of enlightenment, though the

ethics of morality should have a prominent place in their education. We have seen that immorality and witchcraft are still practiced. Under these hurtful influences and amidst uncleanliness are the young brought up to lie and steal without thought or knowledge of disgrace. In the abolition of these many and serious evils and replacing them with ideas of the principles of Christianity, respect for the rights of others, personal purity, self-respect and independence the school finds one of its most sacred missions.

Probably the success of the sectarian missions would warrant their being called more than attempts. As early as 1793 the missionaries of the Greek Church landed on Kadiak Island, where they erected a church building and opened schools. To the support of these missions the Russian Fur Company contributed annually $6,600. In 1845 a Lutheran mission was established at Sitka. It was ten years after the Territory was handed over to the United States, despite urgent appeals, that the missionary societies of America turned their attention to this field, and then several sects sent out missionaries.

The "Girls Home" in Sitka has proven itself efficient in rescueing girls from slavery, and the schools at Wrangell and elsewhere have done good work in this direction and in the spread of civilization.

For the influence that they have had and will have upon the missionary and educational work in this field, brief mention of the labors and success of William Duncan among the Tsimpsean Indians—unprecedented as they are in missionary history—will not be out of place here.

In 1857, Duncan arrived at Port Simpson, in British Columbia, having given up a lucrative posi-

ANCIENT GREEK CHURCH, SITKA.

From a photograph (161 by Winters Photo. Co., Eugene, Oregon.

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tion in England to volunteer in the service of the English Church Missionary Society. Here he found the natives sunk in the lowest depths to which cannibalism, the darkest rites of superstition and traders' whisky can reduce even savagery and still retain the image of their God.

He did nothing until he had mastered their language—meanwhile studying their nature and manners from the Fort. Then he went among them, teaching them in that soft dialect and taking them completely by surprise.

Duncan was dealing with a primitive and simple-minded people. He showed them the material advantages to be gained by adopting a higher civilization, and as one writer puts it, "recognized a fact which has, unfortunately been little appreciated in the past by those attempting to civilize heathen people."

He recognized the fact also, that it was the tutor of civilization, the instructor in the material, as much as the teacher of religion that was needed, and that the civilizing Christian missionary as Stanley says, "must belong to no nation in particular, no sect, but to the entire white race."

Simplicity was the key-note of Mr. Duncan's success. Doing away with every show of form or ceremony, Mr. Duncan taught his people the fundamental truths of Christianity, presenting to them the one central idea of the Omnipotent God, and upon the darkened, superstitious mind broke a ray of light. Further, he trusted them and confided in them. The effect was not long in making its appearance and he soon had about him a circle of devotees.

About four years later he saw that it would be wise

to get his little colony away from the detrimental influences of the trading post. So he gathered a few together, and selecting the site of a deserted village about fifty miles south of Port Simpson, founded the town of Metlakatla. More of the tribes, among them many of their chiefs, soon followed and Metlakatla's population numbered twelve hundred.

From a tribe reduced to the lowest level of savage degredation, we see, in a community here living in Christian civilization the result of thirty years of untiring efforts on the part of one man. At this time Metlakatla had an industrious population, trained in agricultural, commercial and mercantile pursuits, and could boast of a large and handsome church, well-built cottages, a school building, blacksmith and carpenter shops, a store, a saw-mill and a cannery, and built entirely by the natives under the instruction of Duncan, who has, from time to time, visited the outside world to learn of these things himself.

Peace was not to reign in this prosperous community forever. Bigoted hierarchy was at work in an underhand way, and in 1881 a storm burst over Metlakatla which threatened it with destruction.

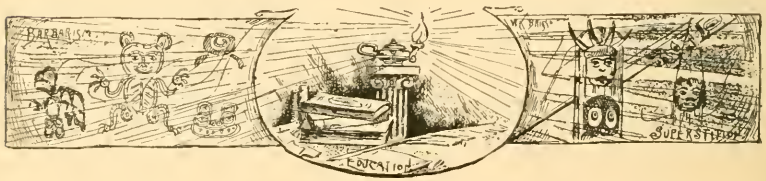
The Church Missionary Society objected to Mr. Duncan's liberal policy of church rule, and urged him to take orders. Not thinking it for the best of the cause, he declined, and after several attempts on the part of the Society to reduce him to subjection they sent him a bishop. This narrow-minded bit of sectarianism took upon himself the government of the mission, and from then on mischief was rife. Bigotry, arrogance and childish display characterized this man's stay.

Mr. Duncan and his party seceded and formed themselves into a body under the name of the Christian Church of Metlakatla. The Missionary Society then lay claim to the site of this little settlement, and when the Dominion Government was turned to for relief and their appeals treated with evasion, they decided, as the last alternative, to abandon their homes and to seek a refuge within the territory of the United States. Annette Island in Alaska was about ninety miles north and uninhabited. As this seemed a favorable location, Mr. Duncan visited Washington to obtain permission to settle on this Island; this he obtained with the promise that, "when the general land laws of the United States were extended to Alaska, ample provision would be made for all law-abiding inhabitants." In the summer of 1887 they commenced their exodus, and found they could take from their homes nothing but their personal property. A site was selected at Port Chester, Annette Island (named New Metlakatla) and here Duncan with about eight hundred of his people have begun anew, under the Stars and Stripes.

The story of their wrongs would fill a volume. Sectarianism, the bane of Christianity, and the desire for gain with politicians, are at the bottom of the trouble, and to the personal aggrandizement of the few has been sacrificed the well-being of a thousand. Alaska has, however, gained an addition to her population which will be of the greatest value to her in the future spread of civilization and in the development of her resources.

The achievements of the civilizing influences brought to bear in the Territory I have attempted to

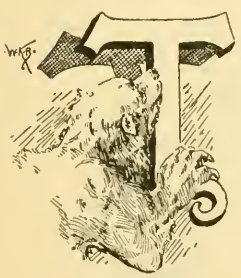
show in various pages through this work. In the labor of reclaiming a savage people there are always two contending factions whose aims lie in vastly different directions; these are the trader and the missionary influences; I may say three, for there is the disinterested speculator or the resident who, indifferent to both, does the latter no good and the former no harm. Then there is the religion we would instill into this people. Christianity is not the unit it should be, especially in this work. Sectarianism is allowed to figure more largely than the primary principles of Christianity, presenting to the darkened intellect a maze it cannot possibly untangle. With what most natural and evil results? They have been demonstrated wherever missionaries have set foot, and even in the midst of Christian lands. Leave it to more enlightened minds to find, if they are there and necessary, the virtues of sectarianism, and present to the savage the truth of the living Diety and the material advantages of civilization. For such tuition the Alaskan aborigine is well prepared; such was the course of William Duncan at Metlakatla, and the consequent result is his success without precedent.



CHAPTER VIII.

ANIMAL LIFE IN ALASKA.

MAMMOTHS.—DISCOVERY OF THESE PRE-HISTORIC MONSTERS.—THE REMARKABLE BEAR OF THE YUKON.—OTHER SPECIES OF THE BEAR.—THE DEER, BUFFALO AND VULPINE FAMILIES OF ALASKA.—FUR-BEARING ANIMALS.—ORNITHOLOGY.—THE AMPHIBIA AND FISHES OF ALASKAN WATERS.



TRAVELERS in the interior of Alaska, and those who have explored close to the head-waters of the numerous streams of that interesting region, are thoroughly in accord with the assertion that there are still existing specimens of pre-historic animals.

Mr. C. F. Fowler, for a long time a resident of Alaska as an attache of the Alaska Commercial Company, is responsible for the story that live mammoths have been seen by some Indians of the Yukon. The assured ability of the soil to bring forth prodigeously vegetable life, makes it not unreasonable to suppose that in the unknown and unexplored regions there are large food resources available for the support of such animals as natural history puts under the generic name of "Mammoths." The history of the elephant, the hippopotamus, the rhinoceros, and other bulky animals of that class, shows that they exist and thrive amid fastnesses where the tread of man seldom enters; and if this be the case in the Orient, why

should not similar conditions, as to isolation, etc., work similar results in the far northern Occident?

In the growth of the human body it has been demonstrated that cold climates produce larger and more vigorous men than are bred in the enervation of tropical clime. Therefore, if India grows elephants, why should not Alaska produce a mammoth; and if China has produced the giant Chang, why might not the latitude of Alaska bring forth as great if not a greater animal wonder.

But the facts as to past-existent life of mammoth

proportions in Alaska are self-evident and indisputable. The ivory tusks of these animals are a regular article of commerce, and cumber the earth of the interior, while the natives are unanimous in the assertion that animals of proportions unknown to the civilized countries of the world roam through the fastnesses of what has been called a *terra incognita*. The Alaska Commercial Company bought a large amount of supposed fossil ivory from one of the chiefs of the Innuit tribe of Alaskan Indians, and, on examination, blood stains and fragments of flesh were found

adhering to the tusks. The agent questioned the aborigines, and learned from a young man who had led the hunt in which the ivory was taken that the party had encountered a bull and cow of the mastodon species. The cow had fled on the male trumpeting an alarm, but the bull was killed by a musket ball through the brain, and, subsequently, the female seeking her mate, was encountered and dispatched. A rough sketch of the bull, drawn by the Indian who had led the hunting party, would make its dimensions over twenty feet in height and thirty feet in length. The American aborigine, whether in Alaska or other section, is more or less given to exaggeration in describing natural objects, either animate or inanimate; but, making all due allowance for this, the tusks themselves are evidence sufficient to show that they had been worn by animals of a size greater than any living species in any other part of the known world.

Prof. John Muir, undoubtedly the greatest living authority on Alaska, a close observer and a most conscientious and conservative man, in his writings and personal assertions adds his testimony to the theory that the living mastadon is existent to-day in Alaska. He has seen the bones of these animals with the fresh flesh adhering to them, and has seen them all over the southwestern slope of Alaska. The theory that the flesh was preserved by climatic influences is not tenable, as in some of the valleys the atmosphere while humid, is at certain seasons of the year, mild, balmy and dessicating. Prof. Muir has told me that all over Alaska are the remains of myriads of these monsters, and that the natives along the coast have a superstition that the skele-

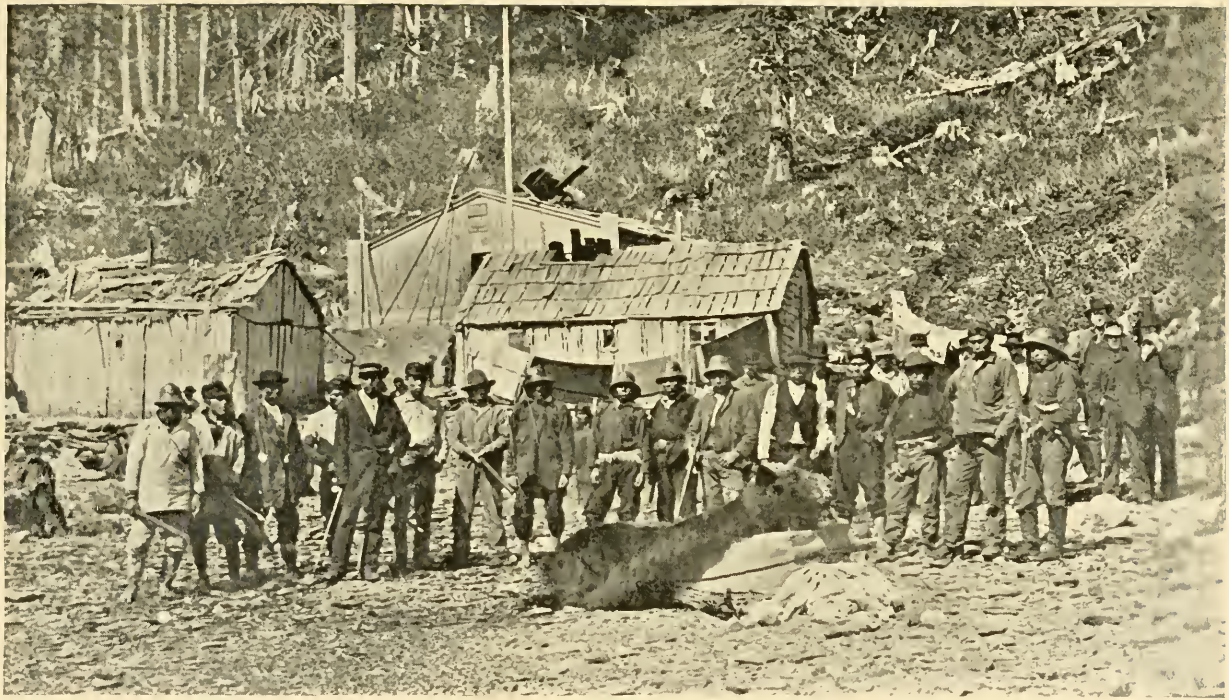
70197

tons are those of some mammoth burrowing animal like the mole. We are not, with the evidence shown, however, ready to believe that mammoths at present inhabit Alaska or any other portion of the globe.

While it is conceded that the bones are those of an animal either of or closely related to the elephant species, it would be most interesting to the cause of science if a live specimen could be procured, and perhaps when the mysteries of the sealed book of this Northland shall be exposed by the enterprise, daring and push of the Americans—as they surely will be in time—some zoological garden may contain a Simon-pure, real live and kicking mastodon as a relic of a geologic age which all the rest of the world but Alaska has passed countless centuries ago.

Among the great wonders of Alaska, unfortunately not vouchsafed the tourist's vision, is an un-named marvel of the Yukon region, a species of bear, which has a strong claim upon our esteem. A miner, one McQuestin, well known for his veracity, is responsible for the discovery and addition of this animal to the natural history of Alaska. The animal as seen by McQuestin possesses some of the peculiarities of both the cinnamon and the grizzly bear of the south. He inhabits solely the mountainous and unknown wilderness of the Yukon, never leaving his steep and rugged fastness for the more convivial regions of the low lands. He is described as large, fierce and rather awkward; but the peculiarity of this brute is that, the better to enable him to roam about the mountain-sides and steep places, his legs on one side are shorter than the other two. Surely Nature is provident!

Alaska, while not rich in variety of animal life, for a new and comparatively unsettled and unknown



CHIEF KOW-EE AND INDIAN BUCKS AFTER A BEAR HUNT.

From photograph 109, by WINTER PHOTO CO., Eugene, Ore.

grows an outer coat of coarse hair, alternating with black and white, the combination giving silvery yet brindled tints. Specimens of this animal are quite rare near the coast and its skin is very highly prized, the Indians even refusing as high as one hundred dollars in gold for a single skin. Where one of these skins is taken, the shaman of the family to which the mighty hunters who took it belong, demands that it be hung up in front of the "big house" of the village, not only as a trophy of the prowess of the entire family, but as a totem or talisman for success in the chase.

Next in importance as regards size is the moose, or elk, as it is variously called. All the Rocky Mountain region and the coast line ranges from Oregon northward, at one time contained large herds of moose, and it is not more than a quarter of a century since they were so plentiful in parts of Montana and Idaho that one could scarcely make a day's journey without encountering pairs or herds of them. It is the largest of the deer family, and the specimens found in the Arctic exceed in size those found in any other portion of the world. As an average, a full-grown moose in Alaska has dimensions of about six feet in height and measures from seven to eight feet from nose to tail, the tail being about eight inches in length. The weight of the animal runs from twelve hundred to fifteen hundred pounds, inclusive of the horns, which range in weight from seventy pounds up to one hundred and fifty. The moose is not a pretty animal. He is as awkward and clumsy and apparently as much out of place as a creature of grace in the deer family as a rich country uncle in a family reunion in a city mansion.

But like the country uncle he is useful. His meat is "jerked" and affords winter food for the natives; his hide, hoofs and horns are articles of commerce, and used, when he was in the prime of his plentifulness and before the inroads of civilization made him scarce, to constitute an important factor of trade among the Indians, trappers, traders and commercial organizations which extended from the Atlantic to the Pacific seaboard and all the great marts of the world. The elk is still occasionally found in the higher latitudes of the continent even, however, as low as that of Maine; but the tread and snorting of the iron horse, the repeating rifle and the westward march of Empire have all but obliterated the animal, and its last refuge is in the romantic wilds of Alaska.

The buffalo, so far as magnitude of structure and stature are concerned, is about contemporaneous with the moose. In Idaho, Montana, Oregon and Washington the animal is invariably called the elk. To the northward, especially in British territory, it is called the moose.

Buffalo are occasionally seen in Alaska, but they are smaller in size than the noble animal that in great herds used to roam the vast plains of the northwest, and which, but for the fostering care of the Government, would be as nearly extinct a species as the mastodon itself.

Various kinds of deer are also found in Alaska. The white-tailed and the black-tailed deer are abundant in the interior of some of the islands of the Archipelago, and the musk-ox, which northwestern hunters and trappers associate with the deer species, is occasionally met with. Another member of the

deer family, the most graceful and beautiful of all—though, sad to say, the flavor of his meat does not come up to the beauty of his appearance—which is met with in Alaska, is the antelope, or "gazelle."

The industrious and pains-taking beaver—that thorough emblem of the maxim that, by the sweat of thy brow thou shalt earn thy bread; that complete exponent of labor as the main factor in the struggle for existence—is frequently found in the streams of Alaska, but the hunt that has gone on, year after year, for its furry envelope has diminished its numbers so, that ere long it will be but a relic and a memory, as it is to-day in Montana, where once it flourished and where its cunning architecture could be seen on almost every stream.

The Alaskan country, isolated as it has been to the world in general, has not been free from the inroads of the trapper and hunter; in fact, in the pursuit of fur-bearing animals, it was a fruitful field long before more accessible localities had been worked for furs. While Alaska is to-day rich in fur-bearing animals, both land and amphibious, the evidences are apparent that over two centuries of trap, bow and arrow and gun have all but decimated many species once plentiful, but now represented only by occasional specimens. The chamois (a wild goat, but familiarly known among the early mountaineers as the mountain sheep) was plentiful in Alaskan ranges, as it was in the Rocky Mountains not so many years ago; but the swift and unerring bullet of the hunter overcame the remarkable agility and cunning of this animal. Specimens are occasionally seen from the coast and from the banks of the rivers, sadly contemplating the smoke of the steamer and

RUSTIC BRIDGE OVER INDIAN RIVER, SITKA

From a photograph by INGERSOLL, St. Paul, Minn., 3511.

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wondering at the sound of the whistle that echoes through its native forests, but they are so wary and make themselves so scarce on the approach of man that it is not considered worth while to hunt them.

The mink, that pretty little animal, whose fur some thirty years ago was as fashionable for a lady's outer habiliments as the skin of the seal is to-day, roamed Alaska in what seemed inexhaustible numbers; but the stern demands of fashion, that handmaid of commerce, have almost entirely obliterated this animal. Moreover, the mink is out of fashion in the make-up of a stylish lady's garments. Only a few years ago the mink was quite common in Montana, and it is less than thirty years ago that they were trapped on the forks of the Yuba in California.

The Siberian wolf is found in Alaska. The story-books represent the Siberian wolf as a fierce and dangerous animal, running in packs, maddened by hunger and ready to attack and devour anything and everything; and almost every school-boy has read the thrilling stories of the pursuit of sledges by packs of wolves in Russia, when the frightened occupants would cast out their robes and other valuables to stay the progress of the maddened and all-devouring fiends. The Siberian wolf, as found in Alaska, is like all his cousins in the wolf family, a coward. He will run at the sight of a human being, and the sound of a shot from a gun, even if he be not pinged by the ball, will give him a celerity in his escape, and his alacrity in avoiding danger is phenomenal. The saying "runs like a scared wolf," applies as well to the fabled Siberian wolf as it does to the humble coyote of the great North American plains. The

pelts of all the various species of wolves in Alaska find a market, and that of the Siberian is most valuable. Among the species are *Canis Lupis*, or the European wolf, now almost extinct in most parts of Europe. It is a close relative of the Siberian wolf and is found in Alaska. It is not a ferocious animal and is easily tamed, and the geneology of the Eskimo and other domesticated dogs in the Arctic is traced to this animal. In its native state, however, it is hunted for its hide and is still quite common. The coyote (prairie wolf) is likewise found in Alaska, but is not even distinguished by being represented as a totem, let alone being hunted for its hide and fur. It is a sort of Pariah in the wolf family, is both a coward and a thief and, unfortunately for itself, possesses no attribute which makes its component parts valuable to man, and it therefore enjoys an immunity not shared by other wolves. When the country becomes more settled and grazing becomes one of the industries of parts of Alaska, as it will in time, the coyote will find a price set on his head. In Alaska are also found the gray wolf, the white wolf, whose skins are valuable, the Oregon giant wolf (so-called), and the silver wolf, which bears a strong resemblance to the silver-gray fox.

Various kinds of foxes are found in Alaska, conspicuous among which is the silver-gray fox, which is hunted for its skin, which forms quite an item of trade with the natives. The most prominent of the vulpines, however, is the Arctic fox. The fur of the adult is of a clear, glistening white and is very beautiful. The fur of the young is of a dull leaden color, and the natives never kill these animals until they have attained their maturity, and the fur has assumed

its peculiar snowy gloss, when the skins command a good price at the trading posts.

Mephitis Americana, commonly known as the pole-cat, is one of the prettiest little animals known to the North American continent. As to him we may use the aphorism, "handsome is that handsome does;" but comment on his attributes, aside from his looks, is not neeessary. The pole-cat is, nevertheless, a valuable fur-bearing animal, and his skin is in high demand in Europe for robes of royalty. The ermine, whose fur has for centuries been a token of rank and royalty, was plentiful, according to native traditions, generations ago, and specimens of this pretty animal are still met with in Alaska. Naturalists aver that the ermine and pole-cat are first cousins, but certain it is that, with the practical extinction of the ermine, the fur of the pole-cat has taken its place, and many a judicial robe that passes for ermine is simply pole-cat. This animal is very common in Alaska.

The porcupine is an animal who makes himself somewhat too unpleasantly numerous in Alaska. One might be out looking for stray glaciers, or trying to get a shot at a mammoth of the Pliocene period, and he would be just as apt to come across a curious looking ball, and when he got too close to it the vicious little varmint would open his battery of quills, and the investigator would think he had struck a new thing in botany in the shape of a live and kicking member of the cactus family. Of other animal life (quadrupedal), it is only necessary to say that Alaska contains nearly all the fur-bearing animals known to the Temperate and Arctic Zones, from the smallest rodent up to the highest mammalia.

This is not a work on Natural History; it is merely descriptive of a land of comparative isolation—full of romance and mystery and offering a magnificent field to the student of Nature, to the scientist, to the trader, to the curiosity-seeker, to the traveler either on pleasure or enterprise bent, and full of possibilities, commercial, progressive, geographical and developmental. The resources of Alaska, other than so far referred to, will be treated in other chapters, and though the literature of Alaska is rich and exhaustive as already written, the effort in these chapters on the possibilities of Alaska, will be to show that the half has not been told.

The ornithology of Alaska is not specially remarkable, exclusive of the fact that near the coast and far up along the banks of the rivers even in the winter time, and amid the vegetation at the foot of glaciers are found many kinds of song-birds and birds of beautiful plumage known to more southern climes, among which are the canary, thrush, linnet, vesper-sparrow, wood-pecker, humming-bird, whip-poor-will and other small feathered bipeds. The majority of the birds found in Alaska, however, are acquatic and migratory, such as duck, goose, curlew, sand-thrill, crane, diver, pelican, land-gull and sea-gull, snipe and the shag, a member of the cormorant family and so plentiful in the Pribyloff Group that the flocks at times darken the sky. It is asserted that the summer home and breeding ground of the wild goose, duck and other migratory-acquatic birds common all over the American continent is in the far North and particularly in Alaska.

Among the most interesting animals of Alaska, and in fact the most important in a commercial

sense, are the amphibia; the most conspicuous of these dual-lived animals being the sea otter, the river otter, beaver, walrus, sea-lion and the fur-seal. The beaver has heretofore been mentioned in these pages, and the river otter and the beaver are now scarcely more than relics of the past. The walrus is still an important land-marine animal for its ivory, oil and hide, and is hunted by both native and white fishermen. The walrus belongs to the seal family, but its proportions are the largest of any member of that tribe; its fur is coarser and closer and its skin thicker, being sometimes as much as two inches in thickness. Under the skin it carries a coating of fat, which wise Nature seems to have made as a provision in all the marine and amphibious animals of the Arctic regions as a protection from cold. The walrus attains a growth of from twelve to fifteen feet in length and eight to ten feet in circumference. Specimens are taken at times which measure twenty feet in length, twelve feet in circumference and in weight over two thousand pounds. The tusks are fashioned by the natives into various articles of household use and into weapons, and are bartered and sold to ships' crews and officers and at the trading posts. Arctic sailors of an artistic turn do some beautiful engraving on the walrus tusk, and this art has no doubt been learned from the natives, who are apt in the work, but whose representations are crude and barbaric. Walrus ivory is a standard article of trade the world over, also walrus oil, as are the marine oils of the Arctic region. The uses of this oleaginous material are too multifarious for mention in this work. The flesh of the walrus is eaten by natives and ships' crews, and the skin tans a heavy,

porous leather over an inch thick, and is used for various purposes in Russia.

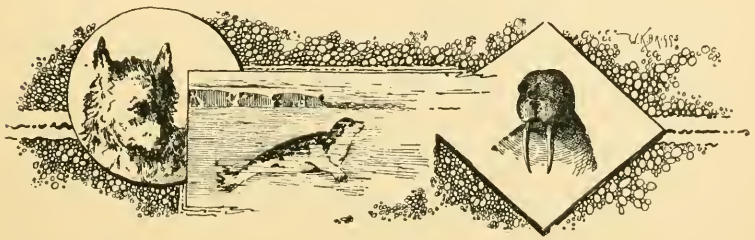
The sea-lion—a member of the seal family, closely allied—also is common in Alaskan waters and extends far to the southward. On the ocean coast of San Francisco and up into the harbor almost to the mouth of the Sacramento River, these amphibia are found. Their land habitation is on reefs of rocks, and they seldom approach the shore. They are protected by State law in California, notwithstanding that they devour large quantities of salmon and other valuable food-fish; though sometimes hunters are permitted to lassoo specimens for museum purposes. The object of this protection is that the seals on the Seal Rocks, just off the Cliff House, a prominent place of San Francisco resort, may be kept as a show for strangers visiting the city, and among sights exhibited to the tourist in San Francisco are the sea-lions. These animals are not hunted extensively in Arctic waters, as their fur being sparce and stubby has no commercial value; their skins are too porous for leather, and they do not carry enough blubber to make their oil profitable, though the natives use the skin for house roofs, and from its viscera fashion various household utensils.

But the chief of all the animals of Alaska for numbers, richness of fur and commercial importance is the fur-seal. As a matter of fact, notwithstanding the great material resources known to exist in Alaska, the seal industry next to the fisheries is of the most value.

Another great resource of Alaska at the present time, and one which, with proper precautions and care, will last indefinitely and perhaps perpetually,

is its fisheries. The principal species of fish found in Alaskan waters are cod, salmon, halibut, herring, tomcod, ulikon, mullet, trout and suckers. At the present time the most important of these in a commercial sense is the salmon fishery, and next to that the cod. Including the halibut, these are the only fish that are largely used for trade purposes, though of late the ulikon has been caught in large numbers and the oil extracted. The ulikon is said to belong to the same species as the menhaden of the New England coast, which are taken in enormous quantities for their oil, and the residue is dessicated and used as a fertilizer. The herring fisheries of Alaskan waters have not, so far, been extensively worked, though the fish are exceedingly numerous and of fine flavor and are said to strongly resemble the famed Yarmouth bloater, both in taste and size and in general appearance.

The candle-fish, of which large numbers are caught, are almost a mass of oil, if such a term could be properly used to convey the intended idea. They can be found in the stores of San Francisco, but are not highly prized, as they are too rich. The natives preserve them and use them for torches, as when lighted they will burn like a candle; hence the name, "candle-fish."



CHAPTER IX.

RESOURCES.

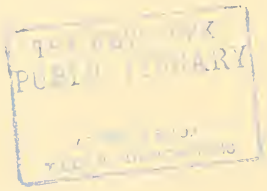
ALASKA'S GREAT WEALTH.—EXTENT OF HER GOLD AND SILVER MINES.—VALUABLE DISCOVERIES OF MINERAL WEALTH.—THE ABUNDANCE OF COAL AND TIMBER.—VALUE OF HER FURS, FISHERIES, ETC.—THE GREAT TREADWELL MINE.—DEVELOPMENT OF PLACER MINING. — INDUSTRY AND GROWTH OF HER CANNERIES.—PROSPECTS FOR A BRIGHT FUTURE.

THE material resources of Alaska, though they can only as yet be said to be in mere progress of development, are many and varied. The most important can be summed up as follows: skins, oils of land and amphibious animals, timber, coal and mining in silver, lead, iron and copper, which is now carried on extensively.

Recent mineral exploration has added much that is new to the known material wealth of the Territory. At Glacier Bay and elsewhere, has been found traces of silver, iron and gray copper, and plumbago that may equal the Siberian. Garnet is found on the Stikine River, but seems of little value. It is blasted out of black slate which bears it, and is full of blemishes. Galena ores are quite common, but no

CITY OF JUNEAU FROM THE HILL, TREADWELL MINE, AND DOUGLAS ISLAND IN THE DISTANCE.

From photograph 7802, by PARTRIDGE, Portland, Ore.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extensive mining and reduction of them is carried on. Mica, asbestos, lime-stone and red ochre have been discovered in several localities, but have been mined to no great extent and some not at all. Great deposits of native copper exist at various points and several mines are worked for this mineral on Prince of Wales Island.

The principal gold mines of Alaska are on Douglas Island, southeastern Alaska. The island is about eight miles in breadth. The ledges lie along the eastern side of the island, from one thousand to one thousand five hundred feet. The only mine thus far developed sufficiently to be on a paying basis is the famous Treadwell mine. This mine, though in a well-defined true fissure vein, is more like a great quarry of gold quartz and is probably the most extensive solid body of that precious material in the known world. It is true the ores are of low grade, ranging from six dollars to eighteen dollars per ton, but such is the immensity of the vein, the facility of extraction and the "freeness" of the ore for simplified extraction that the rock is extracted and worked at so small a cost as to leave a large margin of profit in the aggregate. The quartz mill on the Treadwell is the largest in the world, containing the enormous number of two hundred and forty stamps under one roof. The machinery is run by water-power furnished by a ditch which taps several mountain streams. Douglas Island, like Baronoff, upon which Sitka is located, is seamed all over with auriferous quartz and has been prospected and staked off into mining claims by the industrious prospector. Auriferous pyrites are also found on Douglas Island and milled for gold. Besides abun-

dant indications of gold and some silver all along the coast as well as upon the islands, the mountains of Alaska abound in gold-bearing quartz, and the extent of these deposits, it is claimed by experienced miners, will be equal to any similar discoveries in California or Australia.

Capital is but just being attracted to this field. Eastern and European capitalists are largely interested, and there are several companies in San Francisco organized for the purpose of developing the mining industry in Alaska. Active work has been going on for some time in the Silver Bow Basin, four miles from Juneau, where hydraulic mining has been successfully and profitably carried on, and extensive plans are on the tapis for the tunneling and sluicing of these claims. These mines are owned by Thomas S. Nowell, of Boston, a man of excellent judgment, who is now driving a tunnel, a half a mile in length, to tap the Basin one hundred feet deep. F. St. Q. Cockburn, an experienced miner, is the superintendent of this undertaking, which promises a rich reward.

The gold and silver product of the Territory, which has entered the market through the express companies and private hands, amounted to $2,230,000 in the year 1889.

A short time ago it was believed by many intelligent miners that silver could be found here in paying quantities, but the comparatively recent opening up to the Sheep Creek region proved differently. Prominent among the various mines discovered here is the Silver Queen which exhibits enough ore in sight to warrant the erection of a ten stamp mill, concentrator and other working conveniences. It is estimated that five hundred thousand dollars worth of

silver ore is awaiting extraction at this time, while in the upper and lower levels some two feet of fine ore is shown up.

Coal of a superior quality has been found on the Kenai Peninsula, and a company is now engaged in the work of prospecting and developing the mines. This company owns nearly four thousand acres of coal lands, and it is estimated that the two principal veins will yield 2,500,000 tons per quarter section. The coal lies in such large and compact bodies that the cost of mining is small, compared to that in other coal fields of the Pacific Coast. Coal is also found and mined in quantities on Admiralty Island. Large veins of coal exist on the shore of Cook's Inlet, which were known to the Russians who mined it for Colonial use, at Port Graham. Immense outcropping seams are conspicuous here as elsewhere on the Inlet, and some coal is found on Unga Island. Experts say that there is sufficient coal here to supply the whole Pacific Coast with a better and cheaper article than is now on the market. Accessibility is a great advantage to the development of these fields. Petroleum is reported in some localities, and the presence of coal would seem to give color to the report. Iron is known to be abundant; a fine marble has been found in plenty, and about the many volcanic peaks and craters an abundance of sulphur exists.

When it is recollected that Alaska, by reason of her geographical location, has been under the ban, because neither her climate nor natural possibilities were known and understood; that she was sneered at, at the time of our acquisition, as an iceberg border to an expanding map; that she had to grow

slowly into our esteem as the prejudices engendered by ignorance were removed by conscientious tourists and explorers, it becomes a matter of astonishment to note the rapid development of the mining and other resources of Alaska.

In the discovery and exploration of minerals Alaska bids fair to realize the prophecy of Professor Muir, who was certain that this region would prove to be one of the richest gold fields of America. It was also his belief that the great mineral vein from Mexico to British America continued through Alaska to Siberia. Mining developments are daily strengthening the correctness of this theory. Not only has gold been found in numerous localities such as Sitka, Cassias, Douglas Island, Skeena, Silver Bow Basin, Sheep's Head and Bernier Bay, but prospectors have returned from the head-waters of the Yukon carrying specimens of silver, copper, nickel and bituminous coal.

The timber resources of Alaska are as yet untouched. In numerous places along the coast there are huge groves of cedar and pine; juniper and birch of large proportions are found further inland. The presence of immense logs in the drift that comes down the rivers is evidence of great forests further up, and most anywhere inland pine, spruce and cedar can be found five and eight feet in diameter, and a valuable timber which is not found south of Portland Channel but in very small quantities, is a cedar said to be impregnable to the toredo. No extensive explorations for timber have yet been made, but it is more than probable that forests will be found which will place timbering and lumbering among the leading industries of Alaska.

Sufficient has been said in this work about the necessity of protecting the fur-seal to imply something of the value of this source of Government revenue, an important element of American trade and industry. It is the second product of the country in assessed value, fish coming first, while mining at present stands third. The fish values include, besides the actual pack, the bone, oil, ivory and other products of the fish and amphibia.

Secretary Windom has awarded the Seal Fisheries lease for the next twenty years to the North American Commercial Company of San Francisco. That much capital in the country was interested in the great Alaska investment is shown by the fact that twelve bids were presented by nine separate and distinct companies, the successful corporation putting in three of these.

The directory of the Company which is about to supplant the Alaska Commercial Company, consists of Lloyd Tevis, Henry Cowell, Mathias Mayer of San Francisco, and Albert Miller of Oakland, and D. O. Mills, now of New York, is an interested party. Of the three bids of the North American Commercial Company, the first offered $55,200 annual rental, $2 revenue tax and $8 75 bonus for each sealskin, or the bidder was willing to pay in addition to the rent 45 per cent of all receipts from the sale of sealskins. This, it was claimed, would net the Government at least $8 per skin. As a second alternative, this company offered to pay 10 per cent more than any other bidder, but wanted the Government not to restrict the annual kill to less than 100,000 seals. The third bid offered $57,100 rental, $2 revenue tax, $8 25 bonus and 50 cents a gallon for oil.

Their second was the bid accepted by Secretary Windom and the full text of this proposal was as follows:

"Now, therefore, the North American Commercial Company, a corporation duly organized and existing under and by virtue of the laws of the State of California, in the United States, and having its principal place of business in the city and county of San Francisco, in the said State of California, all of whose stockholders and Directors are citizens of the United States, and its officers, and some of the Directors, being familiar with the fur business and the taking and preserving of skins of fur-bearing animals on the Pacific Coast, makes the following proposal or bid for the exclusive right to take fur-seals upon the islands of St. Paul and St. George, in the Territory of Alaska, for a term of twenty years, from and after the 1st day of May, 1890, and to send a vessel or vessels to the said islands for the skins of such seals, the same being made under and in accordance and subject to the terms, provisions, limitations and conditions of Chapter III, Title 25, of the Revised Statutes of the United States of America, and of all the laws of the United States, and all the decisions, rules and regulations now in force, or that have been or may hereafter be made or adopted by the Secretary of the Treasury in the premises, or in relation thereto, and under and in accordance with and subject to all of the terms, provisions, limitations and conditions of the advertisements and notices above set forth and referred to.

"That is to say, the North American Commercial Company propose to pay and will pay an annual rental of $60,000 for the lease of said islands of St.

Paul and St. George, and in addition to the revenue tax or duty of $2 laid upon each fur-seal skin taken and shipped by it from said islands, said company will pay the sum of $7 62½ for each and every seal skin that shall be taken and shipped from said islands of St. Paul and St. George under the provisions of any lease that it may obtain; all such payments to be made at such time and places and in such manner as the Secretary of the Treasury shall direct.

"In addition to said payments, said company stipulates and agrees that it will faithfully comply with all the laws of the United States and all the rules and regulations of the Treasury Department in relation to the taking of fur-seal skins on said islands; as also with all the terms, provisions and conditions of the advertisements or notices for proposals above set forth and referred to.

"The North American Commercial Company also proposes in the event that it should obtain said lease during the existence thereof to pay 50 cents a gallon for each gallon of oil made from seals that may be taken from said islands and sold by it; also to furnish free of charge to the native inhabitants of said islands of St. Paul and St. George annually such quantity or number of dried salmon as the Secretary of the Treasury may direct; also to furnish, under direction of the Secretary of the Treasury, said native inhabitants with salt and barrels necessary for preserving meat.

"It will also allow and pay to the Alaska Commercial Company, if it shall so demand, a fair and reasonable price for all the buildings or improvements erected or made on said islands and for all

implements used by it in its business and that may be useful to said North American Commercial Company, or required by it for the operation of its lease, and that it will undertake and bind itself to operate any lease it may obtain in the interest or for the benefit of American citizens, and so far as may be practicable and consistent with the interest of said company it will encourage the dressing, dyeing and marketing of sealskins within the United States.

"This proposal or bid is accompanied by a properly certified check drawn on the Bank of New York, a national bank of the United States, payable to the order of the Secretary of the Treasury in the sum of $100, 000.

"Should the foregoing proposal or bid be accepted, this corporation will at once make, execute, furnish and deliver all undertakings and bonds with good and sufficient securities to the satisfaction of the United States and the Honorable Secretary of the Treasury, in such sums and upon such terms and conditions as may be required by law or by the Honorable Secretary of the Treasury.

"In case this proposal or bid be accepted, this corporation will at once make a deposit of United States bonds in the amount and as required by law, and will at once do and perform all such acts and things, and enter into, make, execute, acknowledge, deliver, deposit, accept, receive, take, register and record any and all leases, and any and all undertakings, bonds, contracts, agreements, covenants, checks, securities, documents, papers or other instruments, or writing that may be necessary or proper in the premises, and to carry out any or all of the objects or purposes herein mentioned or

KILLISNOO, NEAR SITKA.

From photograph 184, by WINTER PHOTO CO., Eugene, Ore

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alluded to, or that may be required by the United States or by the Honorable Secretary of the Treasury thereof."

The limit of the annual kill has always been fixed at 60,000, and the Secretary of the Interior has made that figure the limit for the future, but it is intimated that, after the first year, the limit may be increased to 100,000.

In May of the present year, the Alaska Commercial Company's lease expires, when the new lessees will enter into possession.

A most important and constantly growing industry in Alaska, is that of fish canning. In this land the rivers fairly swarm with life. All the early navigators and explorers, from Cook down to the present time, have testified with astonishment to the immense numbers of salmon, cod, halibut, herring, mullet, ulikon, etc. Out of the teeming rivers and bays of Alaska, the world can be supplied with salmon, herring and halibut of the best quality; and so prodigal has nature been in the supply that it is a well authenticated fact that as many as eleven thousand salmon have been taken in one haul of the seine.

The principal fisheries are the cod and the salmon, since these fish are most readily prepared for export; halibut, Arctic smelt, brook trout, flounder and other specimens will afford ample variety for local use. Cod, which is most abundant on the banks of Kadiak and the Aleutian Archipelago, is a branch of the fish industry of very great commercial importance. Shipments thereof are made regularly by every steamer leaving Alaskan points. As early as 1864 this industry began to exhibit its magnitude. In 1870 three San Francisco firms shipped three

thousand tons of cod from off the banks of the Shumagin Islands. The annual catch of codfish on the Alaskan banks is one thousand six hundred tons, and about the same amount is taken in the Ochotsk Sea, all of which is marketed in San Francisco. Of course, the salmon trade, in the curing and canning of that fish for the market, outstrips all other in bulk and importance. The abundance and unexcelled quality of Alaska salmon have drawn the attention of the world to this great industry. Where a few Russian weirs and rude fish traps were found, now over thirty canning establishments are in prosperous operation. While six different varieties of salmon swarm in the rivers and inlets of Alaska, yet only two are used in the canneries. These are known as the "king" salmon and the "red" salmon. The king salmon runs or enters the rivers from the middle of May till August, being most plentiful in June. Its greatest length is six feet, and greatest weight one hundred pounds. It is found chiefly in the Kasiloff and Kenai Rivers in Cook's Inlet, also in the Alamuk River at the mouth of Copper River. The red salmon runs all summer.

In salmon canning in Alaska, which has only begun to attract attention, some idea may be formed of the extent of this growing business when it is stated that from January to June, 1889, the equivalent of seventy vessels of 35,655 of tonnage left the port of San Francisco for Alaska in the interest of salmon canners. Most of these took up men and supplies for the canneries, thus showing at a glance the importance of the salmon trade. But its magnitude can perhaps be best comprehended when it is stated that the product for the season of 1889 was

717,000 cases, or 34,416,000 cans. This does not include the salmon salted and put up in barrels, the pack of which in 1888 amounted to 15,000 barrels; in the last season it probably came to half as much again. The following is the pack of the last six years prior to the season of 1889:

YEAR.	CASES.
1883	36,000
1884	45,000
1885	75,000
1886	130,000
1887	240,000
1888	440,000

From the most recent and the best authenticated sources is taken the following list, showing the pack in 1889, of each cannery in operation during that season:

COMPANY.	LOCATION.	CASES.
Alaska Packing	Nushak	19,000
Alaska Salmon Pkg & Fur	Loring	26,600
Alaska Improvement	Karluk	26,000
Arctic Pkg.	Karluk	42,000
Arctic Pkg.	Crystal Bay	28,000
Arctic Fishing	Cook's Inlet	30,000
Aleutian Fishing & Mining	Karluk	54,000
Bristol Bay Pkg.	Bristol Bay	30,000
Baranoff Pkg.	Clarence Strait	28,000
Bartlett Bay Pkg.	Bartlett Bay	4,500
Cape Lees Pkg.	Cape Lees	9,800
Chilkat Pkg.	Chilkat	24,800
Chilkat Canning	Pyramid Har.	16,000
Chiknek Bay	Chiknek	18,000
Central Alaska	Kaiak Islands	1,800
Glacier Pkg.	Stikine	18,000

Hume Pkg.	Karluk	33,000
Karluk Pkg.	Karluk	65,000
Kadiak Pkg.	Kadiak	31,000
Noria Pkg.	Cape Fox	11,000
North West Trading & Pkg.		14,000
Northern Pkg.	Kenia	18,000
Nushagak Canning	Nushagak	28,000
Pyramid Harbor Pkg.	Pyramid Har.	15,000
Pacific Pkg.	Pr. Wm. Sound	5,000
Pacific Whaling	Copper River	19,000
Peninsula Trading & Fur	Kaiak Islands	3,500
Royal Pkg.	Afognak	19,000
Russian American Pkg.	Afognak	25,000
Shumagin Pkg.	Chilkat	10,000
Tin Point Pkg.	Tin Point	19,000
Western Alaska Pkg.	Ozernoi	25,000
Total,		717,000

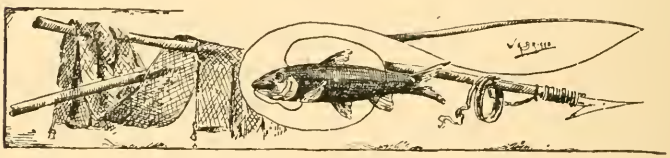
As to the wisdom of the policy which resulted in the acquirement of Alaska by the United States, there has never been a dissenting voice; it has demonstrated itself. The resources and industries already developed have proven ample repayment, to say nothing of the geographical, naval, military and diplomatic advantages accrued and accruing from the possession of the Territory. Russia is interested with the United States in the issue of the present controversy. The purchase of Alaska from Russia gave our country the then undisputed title to the seal grounds of the Territory thus transferred, with all the appurtenances and hereditaments thereunto belonging, together with all and singular the things animate or inanimate, of the land thereon and in the waters beneath.

By the terms of the treaty of cession the Behring Sea is an inland body. The United States leases the exclusive right to seal killing in these waters to a private company, and if Behring be not the enclosed sea, the United States leases what it has no title to, and cannot protect its lessee. Consequently both Governments become liable for heavy damages—the United States to its lessee, and Russia to the United States. I do not propose to treat of the infringement of our vested rights in these waters or of the intrusion upon a claim purchased and developed by the United States.

That the Territory is rich in minerals has been conclusively proven, and, on the miner's theory that where there are paying mines in a certain region there are more of them yet to be found, the prospects of Alaska as a mining region are not only flattering, but unbounded.

We have seen the extent of the fisheries. Despite the large number of canneries in operation, several new plants will begin work next season on a paying basis. The vegetation of Alaska is by no means co-incident to that of a barren and desolate country, such as popular belief accredits it with being. In the immediate vicinity of great glaciers wild fruits and berries thrive, and at Kadiak and Oonalaska the residents grow many of the kitchen vegetables known to the temperate zone, such as radishes, lettuce, carrots, onions, cauliflower, cabbage, peas, turnips, celery, potatoes, tomatoes and corn. With this faculty of vegetation for immigrant plants, it follows that the soil is capable of producing largely of indigenous vegetable foods for the sustenance of animal life.

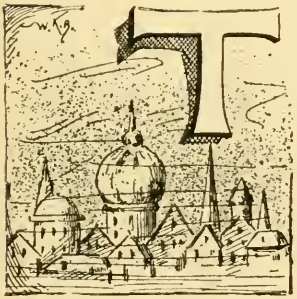
The interior of the country is not as little explored as people generally suppose. There is very little that has not been seen by prospectors, travelers, adventurers and explorers. Its character is pretty well understood by such people, and by Government officials of the coast, geodetic and other survey corps that have visited the Territory. The anomalous conditions of the country and its laws and the little that is known of it by the general public are great drawbacks to the development of that section; but those who have been in a position have great faith in its future, and believe that it contains a vastness of resources sufficient to make it an industrial empire, and that it can be made another great field for the profitable investment of American capital.



CHAPTER X.

PHANTOM CITIES AND MIRAGES.

ATMOSPHERIC ILLUSIONS IN THE VICINITY OF THE GLACIERS. — PROFESSOR WILLOUGHBY'S SILENT CITY.—EFFECT OF THE LATE SUNSET.—CONFIRMATIONS OF THE DISCOVERY.—THE PHANTOM CITY WONDER.—A SUBMERGED CITY BENEATH GLACIER BAY.—THE REALITY DISCOVERED IN THE MYSTERIOUS YUKON REGION.—A FROZEN CITY.



THAT mirages exist in all portions of the earth in hot weather is not disputed by the most incredulous persons; but I look upon it as a reflection on the intelligence of the average mind when the public is requested to believe that the city of Bristol, England, has been photographed on the top of the Muir Glacier, or that two miners, while taking a sail on Glacier Bay on the Fourth of July last, had looked into a pan of quicksilver, and by counter-reflection from the water to the sky had discovered a Phantom City which is supposed to exist under the waters of that bay which, by the way, are as muddy as the Missouri River, from the detritus consequent upon the erosion that is constantly taking place under the great glacier. In the first place, Prof. Willoughby is a character who has

long resided in Alaska, and is familiar with every portion of it, from Metlakatla to Mt. St. Elias, and is selling a picture which has been recognized as the city of Bristol in England. From its appearance it seems to have been taken in twilight or with a very short exposure, and sold to Prof. Willoughby as a dry plate, the old gentleman being something of an amateur photographer. There is no doubt in my mind but that some humorist furnished the Professor with his dry plates and run this in as a glacial joke. I have implicit confidence in the integrity of the Professor, as he is well known in Alaska as an honest man; but having left civilization thirty years or more ago, and having chosen the wilds of Alaska for his home, he has become a simple child of nature, and is recognized as such in all parts of the Territory. He has never seen a locomotive, and is as fair a sample of credulous humanity as one would meet in a lifetime, and the very man upon whom a practical joke could easily be perpetrated. Photography is a pastime with him, and his roving mountain trips are rewarded by some rare views which more timid artists would fail to procure.

Mirages in the glacier regions are of frequent occurrence in pleasant weather, and as the sun does not set before nine o'clock during June and July, some charming views are obtained at or about that hour. During my trip on the "Ancon" a great mirage was visible in Glacier Bay when the steamship was eight or ten miles south of the Pacific Glacier, and what seemed to be a block of large white buildings; the reflection from the two great glaciers stood out upon the northern horizon. Beautifully formed spires, apparently three or four hun-

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dred feet high, reached above the buildings. The doors, windows, streets and gardens appeared to be visible, but this mirage was like those of the great desert. It was general in all its characteristics, and not at all like Prof. Willoughby's alleged reflection or shadow of a city, which must of necessity be more than three or four thousand miles away. The mirage witnessed by the passengers of the "Ancon" was like those witnessed on the great deserts of the sink of the Humboldt and Carson Rivers, in Death Valley, and in many portions of San Bernardino and San Diego Counties, California. It is a frequent and almost daily occurrence in the summer to witness representations of objects in the air of the deserts, of trains of emigrants, men or Indians on horseback, droves of horses and cattle, beautiful gardens, lakes, rivers and waterfalls, with rank vegetation, and upon reaching the spot nothing is found but a barren, sandy desert which has been reflected through its remarkable atmospheric condition from the bunches of greasewood and sagebrush, as a beautiful panorama.

Two gentlemen, Robert Christie and Robert Patterson, have signed the following card which proved the existence of a mirage in front of the great Muir Glacier, which confirms what I have said in regard to mirages in general, but has no reference to such silent cities as Prof. Willoughby claims to have photographed over a year previous, and to have produced the city of Bristol, England.

BARTLETT BAY CANNERY, Aug. 22, 1889.

Robert Christie and Robert Patterson, in the presence of Lamar B. French, Charles R. Lord, R. Willoughby and Minor W. Bruce, make the following statement, to wit:

"On the 2d of July, 1889, while sailing from the main or Glacier Bay, just south of Willoughby Island, about five o'clock in the afternoon, we suddenly saw rising out against the side of the mountains what appeared to be houses, churches and other huge structures. It appeared to be a city of extensive proportions, perhaps of 15,000 or 20,000 inhabitants. We watched the apparition for a long time, and think it was visible for an hour or more.

"We further aver that at that time we had never heard of what is called the Silent City, or that Prof. Willoughby had photographed it. We are satisfied that it was a mirage from its position and appearance."

The certificate I do not doubt is true in every particular; but I am quite sure they would not make an affidavit that the picture of the Silent City which Prof. Willoughby has issued has ever been seen by them or by any one else, and from my personal knowledge of Prof. Willoughby, I am equally as sure that he will not say he ever saw in the sky the picture he is selling as the Silent City.

The mirage seen by the gentlemen in Glacier Bay is without doubt the one seen by myself and the passengers of the "Ancon." I have a photograph of one of these mirages witnessed by one hundred passengers, which is published in this book, and I cannot but express the sentiment that the scenery, inhabitants and glaciers of Alaska are sufficiently wonderful and beautiful to the seeker after the marvelous and curious, without presenting Prof. Willoughby's picture as a fact, when it should be treated as a joke, to show how easily a humorist might impose upon an honest but simple-minded old

man, who has been isolated for over thirty years from this world of civilization and improvement.

The next Phantom City wonder was first published in the *Daily Transcript* of Nevada City. It goes on to say that James O'Dell left Nevada City last April to look after a mine, located in Alaska a year ago by D. H. Jackson. Mr. O'Dell said to his room-mate, Robert Renfrew, that he had investigated the Silent City controversy and gave the following description of his investigations:

"We set sail in a hired boat on the 1st of July, early in the morning, with a full stock of provisions and other necessaries. By 'we' I mean Bill Thomas —the old Hale & Norcross man—and two other men unknown to you Idaho men.

"We had many adventures in going up, but what I want to tell you is what I think we discovered in regard to the Silent City, or mirage. You know that during the debris war I was up at Omega, in Nevada County, California. Well, there I learned a trick that I was determined to make use of here. In watching for the anti-debris spies, we used to pour a few pounds of quicksilver into a gold-pan, place it on a rock in an open place and then peer into it with a magnifying glass. In this way we could detect anything that moved on any road or in any place for miles around. The face of the country and all upon it was first reflected upon the heavens or upper stratum of air, and thence down upon the pan of quicksilver, where we could scan it with our glasses.

"Well, when we arrived at the glacier, we cruised about for a day or two, but could see nothing. We feared that we had not found the right place, and were about moving on, when there came a favorable

calm and we tried the gold-pan and the quicksilver. At once we saw depicted on the surface of the bright metal what appeared to be the ruins of a large city. There were the remains of walls, towers and many large buildings, but all were seen in a wavering sort of way. We saw enough, however, to convince us that the city was at the bottom of the bay, was thence imaged on the clouds and then reflected down upon the quicksilver. It may be that, in certain favorable stages of the weather, the image of the sunken city is thrown upon the glacier, where it resembles a mirage.

"Having decided in our minds that the city was one at the bottom of the bay, we spent a whole day getting on the top of the glacier, and at great risk ventured near to its perpendicular face. There we erected a mirror upon a sort of tripod, placing it at a height of about five feet, facing the bay, and using our glasses, saw in it the image of the same ruins seen on the quicksilver when we were down on the water. We could also get a part of the city in our pan, when tried, on the surface of the glacier.

"We were not a scientific expedition, but in our rough way we were able to satisfy ourselves that what is called the 'Silent City,' is in reality a sunken city resting at the bottom of Glacier Bay."

I. W. Taber, the reliable photographer, has shown his usual enterprise in these matters, and has sent a competent artist out with his pan of quicksilver and thinks he has corroborated the theory of a Phantom City being seen under the dirty waters of Glacier Bay, seven hundred feet below the surface, by simply looking into a pan of quicksilver with a magnifying glass.

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The photographers and scientific men have also expressed the opinion, almost unanimously, that Prof. Willoughby saw the picture of Bristol on the crest of the Muir Glacier just as surely as Mr. O'Dell saw the Phantom City under seven hundred feet of muddy water.

Inasmuch as I have taken pains to give the imaginary wonders of Alaska to the public, it is a source of pleasure to present the latest in the way of Silent and Phantom Cities. From the telegraphic news published in the San Francisco *Examiner*, it seems that a man named George Kershon joined a party of miners who were bent on exploring the ice-bound secrets of Alaska. In an interview Mr. Kershon said:

"In the summer of 1888, I was one of the party who left here to go north prospecting. At Juneau we purchased a small sloop to take our outfit up to the Yukon, which we reached after many weeks of toil. I disagreed with my partners and engaged an Indian canoe with two Indians, and started to prospect along an unknown fork of the Yukon River. We had a terrible time. The stream narrowed in between high cliffs and shot with dizzy swiftness down the gulches, making it necessary to tow the canoe by means of a line from the banks, two doing this while the third man rested. Progress was necessarily slow, and for many days we toiled before the first range of cliffs and mountains was passed. Once a hundred-foot water-fall barred us, and it took three days to get around it.

"After this it was a bit easier. The river broadened out and the country was more level. The banks were well wooded and game was plentiful.

We kept on like this, always going north, when, after six weeks, a range of mountains was sighted; I believed this to be the head of the river, and pressed on to reach it before the cold weather set in. Snow was now falling very often, and it was evident that the short summer was nearly done. At length we reached the wild country again, and the stream which had been sub-dividing itself into lesser ones soon became too difficult to navigate. This was almost at the foot of the range of mountains spoken of. Here we determined to camp for the winter, and good quarters were found. Everything was made snug, as the weather up there is something awful, but we were in a deep ravine, overhung by high cliffs, which broke the fury of the winds, and the best was made of it. Game was plentiful, and large quantities of elk and deer were shot and frozen for use through the long winter months.

"Before long the cold came, and at times it was impossible to stir from cover; especially was this the case when the terrible winds blew. At other times it was fairly comfortable, although the lack of sun made it gloomy enough. Toward the end of winter it began to get lighter and the gales were less frequent.

"One day I determined to try and scale one of the mountains near us, as I got so tired and weary with being penned up in such a confined place. This idea I put before the Indians. One of them said he would go with me; the other would not risk it, so he was left in camp. A storm shortly arose, blowing heavily for three days, but as soon as the weather had settled, the Indian and myself started off on our trip.

"We went right up the line of the frozen river, which, being a solid mass of ice, made a good road-

way. Following this for about twenty miles, at a pretty steep rise, we reached a plateau between the foothills and high range. Here the stream ended, and we started to climb one of the big hills. After a lot of hard work we reached a point near the summit. A wonderful view was had from here, but the strangest thing was a city in one of the valleys below. You may depend upon it, I was surprised to see it. At first I thought it was some fantastic arrangement of ice and snow which had assumed the form of a city, but examination with the glass showed that such was not the case, it being too regular in appearance. It was a city sure enough. Determined to see more of it, I commenced to work downwards, although the Indian was rather frightened, he evidently not considering it 'good medicine.' After several hours of hard work I reached the outskirts of this mysterious city, and found that the place was laid out in streets, with blocks of strange-looking buildings, what appeared to be mosques, towers, ports, etc., and every evidence of having been built by art. The whole was not of solid ice, though it seemed to be, but blows from a hatchet on one of the walls disclosed the fact that beneath this barrier of ice was some sort of building material. It looked to be wood, but of a stone-like hardness and apparently petrified. The silence around the place was something ghostly. Not the slightest sound broke the awful stillness of the place which, added to the weird look of the empty streets, made it gruesome enough. I soon got tired of investigating the city, as the streets were blocked in many places with huge masses of ice, rendering passage almost impossible. The Indian, too, became uneasy, and we started on

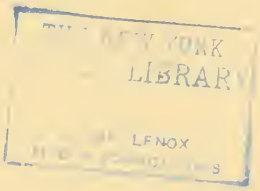
the return trip, reaching home the next day, tired but satisfied that we had been the first men to gaze on that silent city for centuries.

"After spring broke I made some strikes in nugget gold at the head-waters of the river, working with the Indians through the summer months, leaving camp for the Yukon about the end of August. We reached that river all right, the trip down being easy, and in due time I got back to Juneau, where I took the steamer for the south.

"It was while I was at Juneau I saw a newspaper with an account of the mirage seen at Muir Glacier. I did not make any allusions to this, though, as I did not think any one would believe me, but I am positive that the mirage of Muir Glacier is the reflection of the frozen city found by me. In accounting for the presence of this wonderful reflected city I'll have to leave to abler heads. You might ask me how the ruins of big cities came in the interior of Central America. They are there, but who built them nobody knows. Perhaps at one time it was not so cold north as it is now."

This ended Mr. Kershon's story, told with an air of truth which made it evident that he had truly seen the things he said he did.

The public have been shown the entire history of the Silent City, the Phantom City and the reflected-city business last mentioned, and they may draw their own conclusions. That mirages exist in Alaska as well as on the great deserts, and are easily accounted for by the condition of the atmosphere, is a fact; but a photograph of Bristol, another by Mr. Taber's artist and still another picture shown in a pan of quicksilver, with this last candidate for fame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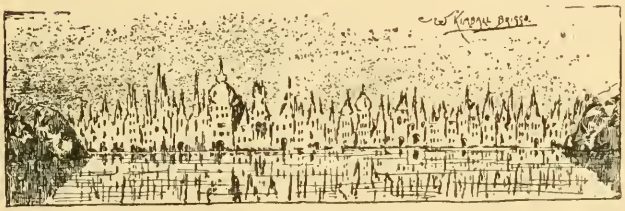
MIRAGE OF MUIR GLACIER, SEEN FROM GLACIER BAY

On July 23, 1889, from a photograph by Miss Maude Badlam

as the discoverer of a real deserted city, I think will rank high among Baron Munchausen's fairy tales, and the public who are easily amused will doubtless look upon these pleasantries from their own standpoint in accordance with the intelligence they possess and in the extent of their credulity.



CHAPTER XI.

CHINOOK JARGON.

LANGUAGE OF THE INDIANS. — DIFFERENT DIALECTS. — THE TRADERS INTRODUCE A COMMON JARGON, WHICH NEARLY ALL TRIBES HAVE ADOPTED. — THE CHINOOK USED AS FAR SOUTH AS OREGON. — EXAMPLES FOR THE USE OF TOURISTS.

OF course, the native races of the region comprehended as Alaska had a distinctive language of their own prior to the advent of foreigners in their midst, though there were undoubtedly different dialects in each tribe, dependent on locality, surroundings and family divisions — provincialisms, so to speak. But in the past century these languages have been so corrupted by certain forms of lingual and Philological contact that they have lost their distinctive character and become condensed into a sort of jargon general among all the aborigines of the region. Some of the contacts leading to this revolution of tongues were the Russian traders, French voyagers, trappers, hunters, sailors and whalers causing the introduction

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KITCH KAWK, OF SITKA.

In Dancing Costume, photograph 7983, by PARTRIDGE, Portland, Oregon.

of the Chinook jargon, used as a trade language for many years in British Columbia and on the coast of Oregon and Washington and still the principal linguistic medium between natives and whites. I give herewith a few examples of some of the jargon words in most common use. T. N. Hibben & Co., of Victoria, have published a book entitled, "Dictionary of the Chinook Jargon, or Indian Trade Language of the North Pacific Coast," and tourists will find it an interesting study to provide themselves with one of them. It is a peculiarity of Indians all over the western continent that it is difficult and next to impossible for them to give the sound of the letter "r," they almost invariably, where it occurs, giving it the sound of "l." It is also the habit of Indians to give the sound of "p" for the pronunciation of "f," as "pish," for "fish." A few of the principal words are selected as follows:

Admiration, hwah.
American, Boston.
Apple, le pome.
Axe, la-hash.
Bargain, mahkook.
Basket, opekwan.
Bear (black) chet-woof; its-woot.
" (grizzly) siam.
Bread, piah sapolill.
Biscuit, lebiskwee.
Blanket, paseesie.
By-and-by, winapie.
Cat, pusspuss.
Cheat (to), la lah.
Cry (to), cly.
All, kon-a-way.
Anger, sol-leks.
Arrow, ka-li-tan.
Bad, mesahchie or peshack.
Boat, boat.
Beads, kamosuk.
Bottle, labooti.
Berries, olillie; olallie.
Bit or Dime, bit.
Buffalo, moosmoos.
Canoe, canim.
Copper, pil chickamin.
Chief, ty-ee.
Dark or darkness, polaklie.

Day, sun.
Dear, hyas mahkook.
Dog, kamooks.
Deer, mowitsh.
Dollar, dolla or tahla.
Dime, bit or mit.
Drunk, pahtlum.
Do (to), mamook.
Fight with fists, mamook pukpuk.
Fish, pish.
Fingers, le doo.
Fork, la poosshet.
Flour, sapolill.
Gamble, mamook itlokum.
Frying-pan, le poel.
God, saghalie tyee.
Ghost, skookum.
Gun, musket, sukwalal.
Good, kloshe.
Heaven, saghalie illahie.
Hair, yakso.
House, house.
Hat, seahpo; seahpult.
I, nika.
Hungry, olo.
Knife, opitsah.
Jealous, sick tumtum
Laughter, heehee.
Language, lk lang.
Look out, kloshe nanitsh.
Little, tenas.
Money, chickamin.
Meat, itlwillie.
Night, polaklie.
Mosquito, melakwa.
One, ikt.
No, not, wake.
Two, mokst.
Seven, sinnamokst.
Three, klone.
Eight, stotekin.
Four, lakit.
Nine, kwaist.
Five, kwinnum.
Ten, tahtlelum.
Six, taghum.
Eleven, tahtleum pe ikt.
One hundred, ikt tukamonuk.
Twenty, mokst tahtlelum.
Old, oleman.
People, tilikum.
Pistol, tenas musket.
Rain, snass.
River, chuck.
Ship, ship.
Sea, salt chuck.
Silver, t'kope chickamin.
Skin, skin.
Small, tenas.
Snow, snow; cole snass.
Steal (to), kapswalla.
Stone, stone.
Strawberries, amotee.
Sugar, le sook; shughae.
Thank you, mahsie.
Tobacco, kinootl; kinoos.

Very, hyas.
Water, chuck.
Wicked, mesahchie.
Woman, Klootchman.
Yes, nawitka; ah-ah; e-eh.
Wait, winapie.
We, nesika.
Witchcraft, tamahnous.
Wind, wind.
You, Your, Yours, mesika.
Young, tenas.

CHAPTER XII.

HOW TO GET THERE.

FROM SAN FRANCISCO TO ALASKA.—THE DIFFERENT ROUTES OPEN.—INFORMATION AS TO CONNECTIONS. — SCHEDULE OF STEAMER MOVEMENTS.— THINGS THAT WILL COME HANDY ON THE TRIP AND BITS OF GENERAL INFORMATION.

O this comparatively untraveled region is being attracted the attention of the whole traveling public and of that class of tourists, the student and the worker, who seek their relaxation and recreation amidst the grandeurs and beauties of nature. To such the claims of Alaska appeal directly. The thousands who, during the two seasons past, have visited this remote corner, attest the popularity of the excursion and warrant the belief that Alaska, for seasons to come, will rival any of those numerous sections of the globe which have heretofore held undisputed sway in the affections and admiration of the lover and the student; the two classes who seek nature in nature's strongholds. It is with the idea and the hope of assisting some few of those who may be about to take

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TRANSPARENT FLOATING ICE, IN TAKOU INLET.

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this northern flight, that I open this chapter with a few suggestions of "How to get there."

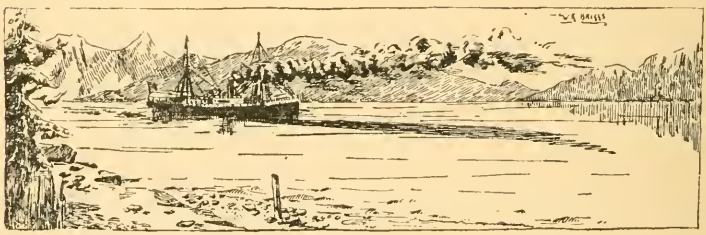
During the winter and early spring months, two steamers ply between Puget Sound, Sitka and way ports, and as they take nearly a month to make the round trip, though it is not the best season for viewing these wild stormy regions, many take this time to see Alaska. The excursion season of 1890 opens on the 2d of June and with the opening a favorite steamer, the "Queen," makes her initial voyage in these waters. The "Queen" is a steamer of three thousand tons, has accommodations for two hundred and fifty first-class passengers and has quite recently been refitted with all modern steamship comforts and is lighted throughout with electricity. The two other boats upon the excursion route are the fine large iron steamships, "George W. Elder" and the "City of Topeka."

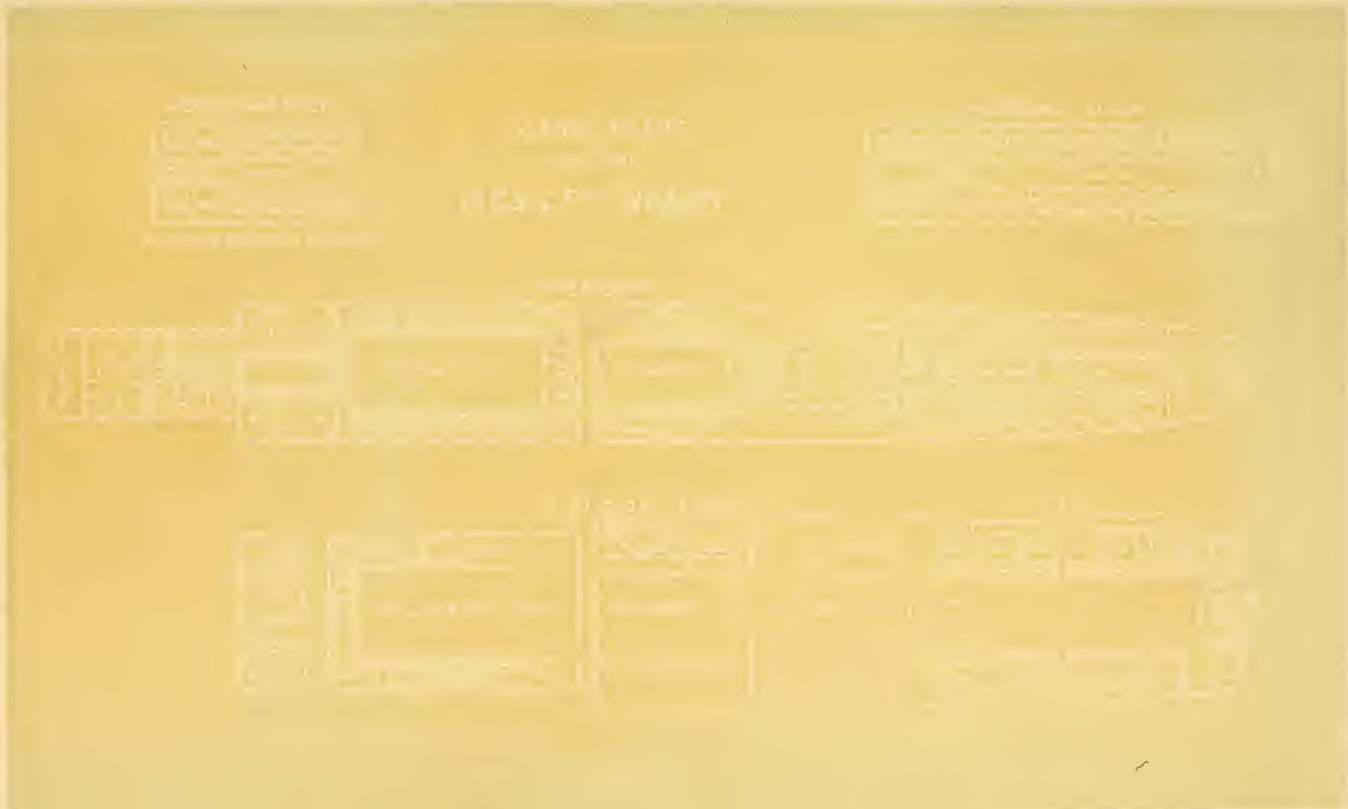
From San Francisco two routes are open to the tourist as far as Tacoma, Washington, whence all must proceed one way. The first of these is by water up the coast to Port Townsend, there to connect with the Alaska steamer which is to bear you on your winding way to the north. The other route lies over the California and Oregon railroad through the beautiful scenery of the Shasta region and Oregon, to Portland, thence by steamer via the Columbia River to Victoria and Port Townsend, or from Portland by rail to Tacoma. For overland passengers via the Northern Pacific, connection is made with the Alaska steamers at Tacoma, and when coming overland by the Canadian Pacific, the steamer is met at Victoria. Connection is made at Port Townsend with all the Alaska steamers by those from San Francisco, after

the latter have touched at Victoria, B. C. Advantage of the latter arrangement is often taken to visit Victoria while the steamer proceeds to Port Townsend, her passengers joining her when she returns on the way north.

One should be provided with warm clothing and all such as he is not afraid to spoil. Gossamers and Mackintoshes and such other protection from the rain as individual taste may dictate should be provided, but umbrellas are inconvenient on shipboard. Heavy rubber shoes will be a comfort, and with a strong Alpenstock for climbing, for ladies and gentlemen, you have about all you require for a trip to Alaska.

Appended will be found the schedule of steamer movements for the season of 1890, with an approximate table of dates for the arrival of steamers at various points and which will be of interest to the traveler.





STEAMSHIP "QUEEN."

Goodall, Perkins & Co., Agents

TIME SCHEDULE ALASKA ROUTE—Season 1890.

Leave San Francisco, Broadway Wharf, No. 1, 9 A. M.		Leave Port Townsend and Victoria, P. M.		Leave Portland by Rail 11 A. M.	Leave Portland by Steamer P. M.	Leave Tacoma 4 A. M. Seattle 9. A. M.	Due back Victoria and Port Townsend.	Due back Tacoma	Due S Francisco A. M.
Stmr. Umatilla,	March 6	City of Topeka,	March 9	Mch. 8	Mch. 6	Mch. 9	Mch. 28	Mch. 28	April 2
" Umatilla,	" 21	Geo. W. Elder,	" 24	" 23	" 21	" 24	April 12	April 12	" 17
" Umatilla,	April 5	City of Topeka,	April 8	April 7	April 5	April 8	" 27	" 27	May 2
" Umatilla,	" 20	Geo. W. Elder,	" 23	" 22	" 20	" 23	May 12	May 12	" 17
" Umatilla,	May 5	City of Topeka,	May 8	May 7	May 5	May 8	" 27	" 27	June 1
" Umatilla,	" 20	Geo. W. Elder,	" 23	" 22	" 20	" 23	June 11	June 11	" 16
" City of Puebla,	" 30	Queen,	June 2	June 1	.....	June 2	" 15	" 15	" 21
" Umatilla,	June 4	City of Topeka,	" 7	" 6	June 4	" 7	" 26	" 26	July 1
" City of Puebla,	" 14	Queen,	" 17	" 16	.....	" 17	" 30	" 30	" 6
" Umatilla,	" 19	Geo. W. Elder,	" 22	" 21	" 19	" 22	July 11	July 11	" 16
" City of Puebla,	" 29	Queen,	July 2	July 1	.....	July 2	" 15	" 15	" 21
" Umatilla,	July 5	City of Topeka,	" 8	" 7	July 5	" 8	" 26	" 26	" 31
" City of Puebla,	" 14	Queen,	" 17	" 16	.....	" 17	" 30	" 30	Aug. 5
" Umatilla,	" 19	Geo. W. Elder,	" 22	" 21	" 19	" 22	Aug. 10	Aug. 10	" 15
" City of Puebla,	" 29	Queen,	Aug. 1	" 31	.....	Aug. 1	" 14	" 14	" 20
" Umatilla,	Aug. 3	City of Topeka,	" 6	Aug. 5	Aug. 3	" 6	" 25	" 25	" 30
" City of Puebla,	" 13	Queen,	" 16	" 15	.....	" 16	" 29	" 29	Sept. 4
" Umatilla,	" 18	Geo. W. Elder,	" 21	" 20	" 18	" 21	Sept. 9	Sept. 9	" 14
" City of Puebla,	" 28	Queen,	" 31	" 30	.....	" 31	" 13	" 13	" 19
" Umatilla,	Sept. 2	City of Topeka,	Sept. 5	Sept. 4	Sept. 2	Sept. 5	" 24	" 24	" 29
" Umatilla,	" 17	Geo. W. Elder,	" 20	" 19	" 17	" 20	Oct. 9	Oct. 9	Oct. 14

The steamer Queen starts from Tacoma, and the steamers City of Topeka and Geo. W. Elder from Portland. Freight for Alaska from Portland, for the steamer Queen, should be shipped from Portland via the Northern Pacific Railroad to Tacoma, three days previous to the date of sailing from Tacoma, or via Union Pacific Railway Co.'s steamers to Port Townsend. Steamer Queen takes freight for Wrangell, Juneau, Douglas Island and Sitka only. San Francisco passengers change steamers at Port Townsend.

APPROXIMATE TIME OF SAILINGS OF STEAMERS ON THE ALASKA ROUTE.

TO ALASKA—SEASON 1890.

PORTS.	STEAMERS.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPT.	OCTOBER.
San Francisco, Broadway Wharf, No. 1, 9 A. M.	Umatilla	5-20	5-20	4-19	5-19	3-18	2-17	.....
	City of Puebla	.....	30	14-29	14-29	13-28	.....	.....
Portland, by Rail	City of Topeka	7	7	6	7	5	4	.....
	Geo. W. Elder	22	22	21	21	20	19	.....
	Queen	.....	.....	1-16	1-16-31	15-30	.....	.....
Portland, by Steamer	City of Topeka	5	5	4	5	3	2	.....
	Geo. W. Elder	20	20	19	19	18	17	.....
Tacoma, Seattle, Port Townsend and Victoria	City of Topeka	8	8	7	8	6	5	.....
	Geo. W. Elder	23	23	22	22	21	20	.....
	Queen	.....	.....	2-17	2-17	1-16-31	.....	.....
Loring	City of Topeka	12	12	11	12	10	9	.....
	Geo. W. Elder	27	27	26	26	25	24	.....
Wrangell	City of Topeka	13	13	12	13	11	10	.....
	Geo. W. Elder	28	28	27	27	26	25	.....
	Queen	.....	.....	4 19	4-19	3-18	2	.....
Juneau and Douglas Island	City of Topeka	14	14	13	14	12	11	.....
	Geo. W. Elder	29	29	28	28	27	26	.....
	Queen	.....	.....	5-20	5-20	4-19	3	.....
Glacier Bay	City of Topeka	16	16	15	16	14	13	.....
	Geo. W. Elder	.....	1-31	30	30	29	28	.....
	Queen	.....	.....	6-21	6-21	5-20	4	.....
Killisnoo	City of Topeka	17	17	16	17	15	14	.....
	Geo. W. Elder	2	2	1	1-31	30	29	.....
Sitka	City of Topeka*	17	17	16	17	15	14	.....
	Geo. W. Elder*	2	2	1	1-31	30	29	.....
	Queen*	.....	.....	7-22	7-22	6-21	5	.....

*Due.

STEAMSHIP "CITY OF TOPEKA."

Goodall, Perkins & Co., Agent.

APPROXIMATE TIME OF SAILINGS OF STEAMERS ON THE ALASKA ROUTE.

FROM ALASKA—SEASON 1890.

PORTS.	STEAMERS.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPT.	OCTOBER.
Sitka	City of Topeka	18	18	17	18	16	15	.....
	Geo. W. Elder	3	3	2	2	1-31	30	.....
	Queen	.....	.....	8-23	8-23	7-22	6	.....
Juneau	City of Topeka	20	20	19	20	18	17	.....
	Geo. W. Elder	5	5	4	4	3	2	2
Wrangell	City of Topeka	21	21	20	21	19	18	.....
	Geo. W. Elder	6	6	5	5	4	3	3
Loring	City of Topeka	22	22	21	22	20	19	.....
	Geo. W. Elder	7	7	6	6	5	4	4
Nanaimo	City of Topeka	26	26	25	26	24	23	.....
	Geo. W. Elder	11	11	10	10	9	8	8
Victoria and Port Townsend	City of Topeka*	27	27	26	26	25	24	.....
	Geo. W. Elder*	12	12	11	11	10	9	9
	Queen*	.....	.....	15-30	15-30	14-29	13	.....
Seattle and Tacoma	City of Topeka*	27	27	26	26	25	24	.....
	Geo. W. Elder*	12	12	11	11	10	9	9
	Queen*	.....	.....	15-30	15-30	14-29	13	.....
San Francisco	Walla Walla*	7-22	7-22	6-21	6-21	5-20	4-19	4-19
	Umatilla*	2-17	2-17	1-16	1-16-31	15-30	14-29	14-29
	City of Puebla*	12-27	12-27	11-26	11-26	10-25	9-24	9-24

*Due.

NOTE.—These dates, as far as they relate to ports in Alaska, are purely approximate. In case of steamers calling at other ports (which they are liable to) or in case of fogs or other unfavorable weather, tides, etc., these dates cannot be relied on. It is not unlikely that ports, for some reason, may be stopped at going south instead of going north, as scheduled. This schedule is made to give an approximate idea of dates when steamers should be at the different ports, providing all the conditions are favorable.

STEAMSHIP "GEORGE W. ELDER."

Goodall, Perkins & Co., Agents.

INDEX.

Adornment, native, 59.
Alaska, discovery and progress, 1, 2, 3, 4; company formed to purchase, 4; project defeated by treachery, 4; purchase by the U. S., 4, 5, 124; wealth, 5; derivation of name, 5; extent, 5, 6; boundary, 6, 26; shore line, 7; natural divisions, 7; animal life, 97–108; ornithology, 108, amphibia, 109; industries, 30, 58, 61, 76, 77, 121, 122, 123.
Alaska Commercial Co., 97, 98.
Alexander Archipelago, 26.
Aleuts, 58, 62, 63.
Anain Passage, 1, 22.
Ancon, loss of, 26.
Animals, 97–108.
Annette Island, 95, 96.
Baranoff, Gov., 31, 32; hunters poisoned, 31; castle, 31, 32.
Bear, 100–102.
Beaver, 104.
Behring, Vitus, 2; first expedition of, 2; second expedition of, 2; conclusions of, 2; wreck and death of, 3.
Bella Bella, 25.
Briggs, Prof. Horace, 44.
Buffalo, 103.
Burial customs and places, 60, 66, 68, 69, 70, 76, 78.
Canneries at Chilkat, 29.
Canning industry, 121, 123.
Canoes, 77, 78.
Carving, 76, 77.
Castes and clans, 60, 75, 76.
Cave burial, 68–70.
Chatham Strait, 31; Sound, 26.
Chiefs, choice of, 60.
Chilkat, 29.
Chinook jargon, 138–141.
Christianity, progress of, 76.
Clarence Strait, 26, 27.
Coal, 115.
Cook, Captain, first appearance of, 3; in Behring Strait, 3.
Crillon, Mt., 30, 48.
Davidson Glacier, 29, 39, 40.
Deer, 102, 103.
Discovery Passage, 23.
Distances, table of, 34.
Dixon Entrance, 26.
Douglas Island, 29, 113, 114.
Duncan, William, 92; at Port Simpson, 92; methods of, 93; teachings of, 93, 94; persecution of, 94, 95; visits Washington, 95; success of, 95, 96.
Dundas Island, 26.
Early schools, 88–90.
Edgecumbe, Mt., 31.
Education, 87; under the Russians, 88, 89; after the transfer, 89, 90.
Educational Bureau established, 89.
Elk, 102, 103.
Embalming, 68, 69.
Ermine, 107.
Eskimo, 58, 62, 64.
Etolin, 88.
Explorations, Vitus Behring, 1–3; Capt. Cook, 3; John Muir, 37, 42,

43; Russian, 50; Spanish, 2, 3; Vancouver, 20, 21, 42; Interior, 126.
Extortion of shamans, 81.
Fairweather, Mt., 30, 48.
Field, Kate, 49.
Finlayson Channel, 25.
Fish, 121, 122.
Fisheries at Killisnoo, 30; at Chilkat, 29.
Fishing grounds, 60, 61.
Fort Wrangell, 27, 28.
Fuca, Juan de, 1; exploits of, 22; Straits of, 19.
Genealogy, 76.
Glaciers, 28, 29, 35–55; Auk, 29, 42; Davidson, 29, 39, 40; Patterson, 28; Eagle, 29; Muir, 30, 38; Takou, 41; Rainbow, 41; of Greenland, 36, 37, 39, 50; formation of, 36; movement of, 36, 41; theories of, 35, 36; in the Yosemite, 50; on Mt. Shasta, 50; traces of, 37, 49, 51.
Glacial evidences on the Pacific Slope, 37, 49.
Glacier Bay, 30, 38, 127, 128, 131, 132.
Government, 8, 9, 10; Russian, 31, 32, 63; native, 60, 61.
Greenland, 36, 37, 39, 50, 51.
Graves, 70, 76, 78.
Hostility of natives, 29.
Hudson Bay Co., 21, 41.
Hunting, 104.
Hyperboreans, the, 53–74; divisions of, 57, 58, 75; characteristics, 62, 63; food, living, etc., 64.
Ice from Alaska, 40.
Icy baths, 65.
Indian beliefs, 67.
Industries, native manufacture, 58, 61; art, 58; carving, 76, 77; canning, 29, 121, 123; fishing, 30, 121, 122.
Infant treatment, 65.
Inland Passage, 19–34.
Intermarriage, 75, 76.
International quarrels, 3, 4.
Jackson, Dr. Sheldon, 88, 90.
Jargon, 138–141.
Johnstone Strait, 23, 24.
Juneau, 28, 90, 114; convention at, 9; gold at, 28; named, 28; newspapers, 29.
Kagamil, legend of, 70–74; caves of, 68, 69, 70.
Kane, Dr., experiments and theories of, 36, 37.
Kershon, Geo., 133; on a perilous trip, 134, 135; discovers a large city, 235, 136.
Killisnoo, 30, 31, 90.
King's experiments, 37.
Koniagas, 58, 62, 63.
Lama Pass, 25.
Land claims, 9.
La Perouse, Mt., 30.
Laws needed, 8–10.
Lease of Seal Fisheries, 8, 117–120.
Legend of Kagamil, 70–74.
Loring, 26.
Lynn Channel, 29, 30, 39–42.
Mammoths, 97–100; remains of, 99, 100.
Manual training, 90, 91.
Marriage customs, 59, 60, 64, 75, 76.
Medicine-men, 80, 64.
Metlakatla Mission, 26, 92–94.
Metlakatla, New, 26, 90, 95, 96.
Minerals, 113–116.
Mining at Douglas Is., 113; Baranoff Is., 113; Juneau, 114; Silver Bow Basin, 114; Sheep Creek, 114; Treadwell, 113; Kenai Peninsula, 115; Admiralty Is., 115; Cook's Inlet, 115.
Mirages, 127–137.
Missionaries and mission societies, 89, 92–96.
Moose, 102, 103.
Moraines, 52–55; definition of, 52; on the Pacific Slope, 52, 53; origin of, 53; in New England, 54.
Morrow's speech, 7.
Mountains, principal peaks, 8.

Muir, Prof. John, 37, 42, 43; experiments of, 40, 41, 43; theories of 99, 116.
Muir Glacier, 30, 38, 43; description of, 43–48; extent, 48; discharge of, 49.
Native Races, 56–74.
New Metlakatla, 26, 27; founding of, 95.
Nootka, surrender of, 20.
Nordenskiold's theories, 50, 51.
O'Dell, Jas., in search of the Phantom City, 131, 132.
Ornithology, 108.
Patterson Glacier, 28.
Peril Strait, 31.
Phantom City, the, 131, 132.
Polygamy, 60, 64.
Portland, Or., 11, 12.
Port Townsend, Wash., 15, 16.
Potlach, 85, 86.
Prince Frederick Sound, 28.
Punishments, 61, 67.
Queen Charlotte Islands, 22; Sound, 22, 23, 24.
Reforms needed, 8–10.
Religion, 79, 80, 88, 91, 92, 95, 96.
Religious schools and training, 89, 91, 92, 96.
Rights of the people, 8–10.
Rousseau, Gen. L. H., 87,
Russians, the, progress, 1, 2; conquests, 2; avarice, 3; at Oonalaska, 3; despotism, 3, 63; explorations, 50.
Russian schools, 88, 89.
Russian-American Fur Co., 3, 92; protest against, 4.
Saginaw, Jake, 30.
Salmon, 121, 122; pack, 123, 124.
San Juan Islands, 19.
Saranac, loss of the, 23.
Schlikoff, Gov., 88.
Schools, 88–90.
Schwatka, Lieut., 39.
Seals, 108, 109.
Seal lease, 8, 117–120.
Seattle, Wash., 14, 15.
Sectarianism, 95, 96.
Seward, Secretary, 4.
Seymour Narrows, 23.
Shamans and Shamanism, 66, 79, 80–85.
Shaman jugglery, 66.
Shamanism elsewhere, 82–84.
Silent City, the, 128–130.
Silver Bow Basin, the, 114.
Sitka, 31–34, 90, 92; Greek Church, 31–33; Thousand Islands, 31; Russians at, 31, 32; ruins of, 32; publications at, 33; castle at, 31, 32.
Slave murder, 67.
Spanish explorers, progress north, 1; at Queen Charlotte Is., 3.
Spanish names, origin, 21; corruption of, 22.
St. Elias Range, 38, 50.
Stoicism, 65.
Students sent to Russia, 89.
Submerged City, the, 131, 132.
Superstition, 65, 66.
Table of Distances, 34.
Tacoma, 12–14.
Theological schools, 89.
Theories, glacial, 35, 36; of moraines, 54, 55; Dr. Kane's 36, 37; John Muir's, 40, 41, 43, 99, 116; Nordenskiold, 50, 51; on the origin of the Alaskans, 56, 57.
Thlinkets, physical development, 58; nature, 58, 61; adornment, 59; marriage customs, 59, 60; villages, 62.
Timber product, 116; laws, 9.
Tongass Narrows, 26.
Totem poles, description, 75, 76; significance, 75, 76; value, 76.
Training, 90; manual, 90, 91; moral, 91, 92.
Treadwell mine, 29, 113.
Vancouver, Geo., 20; surveys and explorations, 20, 21; charts of, 42.
Vancouver Islands, 21–23; posses-

sion, 20; U. S. claim, 21; named, 21; harbors, 21; area, 21.
Vegetation, 30.
Verstova, Mt., 31.
Vices, 61, 65.
Victoria, B. C., 16–18.
Vocabulary, a Chinook, 138–141.
Voyage of Vitus Behring, 2, 3; Capt. Cook, 3; Juan de Fuca, 1; Geo. Vancouver, 20.
Western Union Telegraph scheme, 5, 6.
Willoughby, Professor, 127–129; mirage, 128, 129.
Witchcraft, 79.
Wolf, the, 105.
Wrangell, Baron, 27, 32; Fort, 27, 28, 90; Narrows, 28; Mt., 38.
Wright, Prof. F. G., 49, 53, 54.
Yaas Bay, 26.
Yakatat Bay, 38.
Yukon River, 7, 29.